UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK
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ADVANCED ANALYTICS, INC.,   :

               Plaintiff,   :   04 Civ. 3531 (LTS)(HBP)

    -against-   :   REPORT AND
                                              RECOMMENDATION
CITIGROUP GLOBAL MARKETS, INC.,   :
et al.,
                                       :

               Defendants.   :

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          PITMAN, United States Magistrate Judge:

          TO THE HONORABLE LAURA TAYLOR SWAIN, United States

District Judge,

I.   Introduction

          Plaintiff, Advanced Analytics, Inc. ("AAI"), brings

this action to recover damages for breach of contract, misappro-

priation of trade secrets, unjust enrichment, quantum meruit and

breach of the covenant of good faith and fair dealing, all based

on defendants' alleged misappropriation of plaintiff's trade

secret. By notice of motion dated February 15, 2008 plaintiff

moves for partial summary judgment, pursuant to Rule 56 of the

Federal Rules of Civil Procedure, on one facet of its breach of

contract claim. Defendants also cross-move for summary judgment

dismissing all of plaintiff's claims. For the reasons set forth

below, I respectfully recommend that plaintiff's motion be granted in part and defendants' motion be granted with respect to all of plaintiff's claims other than the portion of plaintiff's breach-of-contract claim on which plaintiff seeks summary judgment.

II. Facts[1]

   This action arises out of plaintiff's efforts to license a software product called Accelerated Convergence Expert ("ACE"). According to plaintiff, ACE is a "software product that [permits the user to] determine the present value of [mortgage backed securities] and other 'path' dependent financial instruments with far more accuracy than existing methods . . . ." (Compl. ¶ 20). On January 7 1997, plaintiff and defendants' predecessor, Salomon Brothers Inc. ("Salomon"), entered into a Mutual Non-Disclosure Agreement ("NDA") to permit Salomon to test ACE to determine whether it would license the product for incorporation into its Yield Book product[2] (Defendants' Reply Statement of Undisputed Facts Pursuant to Local Rule 56.1 ("Def. 56.1

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   [1]The following facts are undisputed for purposes of this motion, unless otherwise noted.

   [2]The Yield Book is "an analytical and quantitative" software product which enables users to price various financial instruments, including mortgage-backed securities (Def. 56.1 Stat. ¶¶ 4-5, 9). Defendants license the yield book product to institutional portfolio managers, investment advisors, insurance companies, banks and hedge funds (Def. 56.1 Stat. ¶ 7).

Stat.") ¶¶ 55-56). Plaintiff alleges that defendants breached

this confidentiality agreement by using the testing process to

steal ACE and incorporate it into their Yield Book (Compl. ¶¶ 64-

67, 69).

A. Accelerated Convergence Expert

Pricing mortgage-backed securities ("MBS")[3] is a diffi-

cult undertaking due to both the possibility of defaults if

interest rates rise and the possibility of prepayment through

re-financing if interest rates decline.[4] Accordingly, the pro-

cess by which the Yield Book prices such securities is complex

and based on aggregating the results of multiple potential

interest rate scenarios through a Monte Carlo simulation.[5]

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[3]A basic MBS is a security that receives principal and
interest payments from a pool of a large number of particular
residential mortgages (a "pass through" MBS). The value of an
MBS depends on the present market value of its expected interest
and principal payments over the life of the security (Plaintiff's
Memorandum of Law in Support of its Motion for Partial Summary
Judgment ("Plf. Mem."), dated February 15, 2008, at 2). MBSs can
also include collateralized mortgage obligations ("CMOs") and
principal only MBSs ("POs") or interest only MBSs ("Ios") (see
Lakhbir Hayre, Salomon Brothers: Guide to Mortgage Backed
Securities (November 1995)("Salomon Guide to MBS"), attached as
Ex. B to the Declaration of Russell D. Munves, dated April 21,
2008 ("Munves Decl. #2")).

[4]In fact, the actual average life span of a 30-year mortgage
is less than 10 years (Salomon Guide to MBS at 14, 16-18).

[5]Monte Carlo simulation involves repeated random sampling of
various potential scenarios to compute an average result. The
Monte Carlo method is especially useful for modeling phenomena

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The software contained in defendants' Yield Book is designed to determine the potential volatility of future interest rate scenarios (2nd Declaration of Dr. Jianqing Fan ("2nd Fan Decl.") at ¶ 9). There appears to be no dispute concerning the following generalized description of the process utilized in the Yield Book.

> (1) numbers called "seeds" are fed into a . . . number generator,[6] (2) the . . . number generator produces .

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[5](...continued)
with significant uncertainty in inputs and in studying systems with a large number of coupled degrees of freedom. See e.g. Douglas Hubbard, How to Measure Anything: Finding the Value of Intangibles in Business, at 72-79, (John Wiley & Sons ed., 2007); McGraw-Hill, 2 Consise Encyclopedia of Science & Technology (6th ed. 2009); McGraw-Hill, Dictionary of Scientific & Technical Terms at 1372 (6th ed. 2002)("a technique which obtains a probabilistic approximation to the solution of a problem by using statistical sampling techniques"); Tzveta Iordanova, Introduction to Monte Carlo Simulation (Investopedia.com 2007) available at http://www.investopedia.co-m/articles/07/monte_carlo_intro.asp. (last visited July 30, 2009).

[6]The parties consistently refer to the number generator and its product as a "random" number generator and a sequence of "random" or "pseudo-random" numbers, respectively. The sequence resulting from the generator is clearly not "random," as that term is conventionally used, i.e., derived without method. Rather, the sequences are derived through a series of statistical tests designed to approximate a uniform distribution or follow another desired distribution. Dr. Yuen-Kwok Chan testified that

> there are various versions of random number generators . . . . you can call one which generates a random number between zero and one, which more or less would look like a uniform distribution. Or you can -- there are versions which return a fair share distribution or so called formal distribution of random numbers. So with numbers closer to the mean being more likely, farther out in the tail, less likely.

. . sequence[] of . . . numbers, (3) mathematical techniques known as "variance reduction" are applied to the random numbers, which results in a sequence of numbers to be used to construct the valuation scenarios . . ., (4) the [sequence of numbers is] used to construct securities valuation scenarios that differ from one another depending upon interest rate changes over time and other variables (each scenario is referred to as a "path"), (5) the cash flows[7] that the security can be expected to generate are estimated for each segment of each path by analyzing the interest rate and slope of that segment,[8] (6) the estimated cash flows for each segment of a given path are discounted and aggregated to determine the total present value of that path, and (7) the present value of all paths are averaged to arrive at an estimated value of the security.

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[6](...continued)
(Deposition of Dr. Yuen-Kwok Chan ("Chan Dep."), conducted on August 2, 2007, at 31, attached as Ex. C to the Declaration of Russel D. Munves, dated February 15, 2008 ("Munves Decl. #1")).

According to plaintiff, "in reality, computers can only generate pseudo-random numbers, instead of truly random numbers. That means no matter how cleverly the random number generators are designed, there will be inherent patterns in the sequences which would distort the outcome" (Advanced Analytics, Inc. Corporate Profile ("ACE Profile") at Bates No. CGM 00004, attached as Ex. 11 to the Moore Decl.).

[7]Defendants employ a prepayment model which predicts the cash-flows of specific groups of mortgages based on historical prepayment rates (Deposition of Lakhbir Hayre ("Hayre Dep."), conducted on August 17, 2007, at 126-31, attached as Ex. D to Munves Decl. #2 and as Ex. 11 to the Declaration of Jennifer A. Kennedy, Esq. ("Kennedy Decl."), dated April 9, 2008).

[8]Each path of defendants' sequences cover the 360-months of payments for a 30-year mortgage using between 86 and 116 "time steps" or segments (see 2nd Fan Decl. at ¶¶ 26-28).

(Defendants' Opposition to Plaintiff's Objection to Magistrate

Judge's Discovery Order of October 4, 2007, dated Nov. 12, 2007

at 4; Docket Item 86).[9]

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    [9]At a proceeding held on October 1, 2007, plaintiff's
counsel explained the process as follows

> What they do is they take the market information about
> current interest rate scenarios [the treasury yield
> curve] . . . .   The other thing you need to know is how
> far -- how far can interest rates vary from today's
> interest rates . . . .   What is the volatility? . . . .
>
> So they go back to the market and they say okay, there
> are instruments out there called caps and floors, which
> is a fancy way for naming securities that allows
> somebody to speculate on what interest rates are going
> to be a year from now . . . .   So they take that
> volatility number and they take the yield curve number,
> and they figure out well, what is the expected
> distribution of interest rates . . . .
>
> Now the purpose of the Monte Carlo simulation is so you
> don't have to project out all possible future interest
> rates, because at the end of the day, the way the
> pricing model works is you take the . . . possible
> future interest rates.   You run it through a prepayment
> model.   The prepayment model tells you what a
> particular mortgage-backed security [is] going to do if
> interest rates go up or down by one percent, or two
> percent, or three percent . . . and then it gives you
> the present value of that mortgage backed security
> based on all the possible future interest rate
> scenarios . . . .   So what you want to do is, rather
> than run all possible future interest rate scenarios
> under the bell curve, what you want to do is you want
> to pick a representative sample of those future
> interest rate scenarios that could happen, maybe
> instead of a hundred bazillion, if you can do it with
> ten, that would be terrific.
>
> But nobody can.   Dr. Wang found sequences that would
> generate a representative sample of future interest
> rate scenarios at thirty-two paths that is very, very
>   (continued...)

The putative trade secret that plaintiff claims is the sequence of numbers that ACE applies at step 3 of the foregoing process.[10] This sequence of numbers acts like a series of coefficients to modify the volatility of the current treasury security yield curve, within a range indicated by current market information, to generate a representative and accurate sample of future interest rate paths (Plaintiff's Rule 56.1 Statement of Material Facts ("Plf. 56.1 Stat.") ¶ 4; Hayre Dep. at 170-71; Chan Dep. at 27; 2nd Fan Decl. at ¶ 23). From 1994 through April 1999, defendants utilized a 200-path single-seed "Production Sequence" (Defendants' Answers and Objections to Plaintiff's

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[9](...continued)
        similar to what you would get if you averaged a million
        paths . . . .

(Transcript of Proceedings, dated Oct. 1, 2007 at 22-27).

[10]Plaintiff's counsel has repeatedly and unequivocally identified plaintiff's trade secret as a sequence of numbers, not a method of deriving numbers and not the seeds used to derive the numbers (see Transcript of Proceedings, dated Oct. 1, 2007 at 4-5 (The Court: "[It] is my understanding of the trade secret that AAI is claiming here is a sequence of numbers. Am I correct in that?" AAI's Counsel: "Yes, Your Honor."); Transcript of Proceedings, dated Oct. 1, 2007 at 12 (AAI's counsel confirming that "the sequence is the trade secret here"); Transcript of Proceedings, dated Aug. 21, 2007 at 16 (plaintiff's counsel suggesting that AAI's product "wasn't a method at all. It was just the actual sequences themselves, the numbers that you use to create the interest rate scenarios in every circumstance. It's just a set of numbers."); Transcript of Proceedings, dated Aug. 21, 2007 at 43 (AAI's counsel explaining that the "ACE numbers have not changed in years because it is just a set of numbers . . . ."); Transcript of Proceedings, dated Mar. 1, 2006 at 35 (plaintiff's counsel stating that AAI's product is "sequences, not seeds")).

Second Set of Interrogatories ("Def. Ans. to Interrogatories"),

dated January 25, 2006, at 5, attached as Ex. 45 to the Moore

Decl.).

Plaintiff claims that in 1997, after approximately a

year of research, Dr. Xiaolu Wang developed a new class of low-

discrepancy sequences which have "shown a dramatic speed up of

convergence rate" and increased accuracy in comparison to "sto-

chastic[11] Monte Carlo simulations" (ACE Profile at Bates No. CGM

00005; Compl. ¶ 20). According to plaintiff, "the sequence is

critical to accurate pricing of an MBS" and the "ACE sequences

generated more accurate MBS pricing, using a smaller number of

interest rate scenarios, than the sequences Defendants were using

when they learned of ACE" (Plf. 56.1 Stat. ¶¶ 4-5; see also ACE

Profile at Bates No. CGM 00005; Compl. ¶¶ 20, 23). The defen-

dants claim that their prepayment model is the critical component

of their method for pricing MBSs and argue that tests of ACE

"were inconclusive as to whether any of the ACE sequences was

more accurate than the sequences defendants were using at the

time" (Response of Defendants to Plaintiff's Rule 56.1 Statement

("Def. 56.1 Resp."), dated April 9, 2008, at ¶¶ 4-5, 11).

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[11]According to the testimony of Robert Russell, "stochastic
calculus deals with the derivatives and integrals of probability
distributions" (Deposition of Robert Russell at 70, attached as
Ex. O to Munves Decl. #2).

B.   The Non-Disclosure Agreement

The NDA provided that "Confidential Information"[12] could only be used for the "Agreed Purpose" of "evaluat[ing] the software products of AAI with the models of Salomon and, and validat[ing] the applicability of the software products of AAI for the production and research of Salomon" (Mutual Non-Disclosure Agreement, attached as Ex. F to the Declaration of Jacob M. Polakoff, Esq. ("Polakoff Decl."), dated May 15, 2008). In order to facilitate the testing of ACE without compromising its confidentiality, the NDA required that the testing occur on a stand-alone computer system (the "Test System") in the presence of an authorized representative of plaintiff (NDA ¶ 2), and restricted access to Confidential Information to those employees and direc-

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[12]The NDA defines "Confidential Information" as

> all tangible or intangible information or materials (in any medium) comprising, describing, embodying or incorporating (A) computer software and hardware products, databases . . . samples, equipment, drawings, specifications . . . trade secrets and other ideas concepts, know-how, methodologies and information incorporated therein . . . and other items which, by their nature, are considered proprietary and confidential . . . and (B) the existence, process or content of the parties' current communications . . . . Confidential Information also includes all information or materials derived from or based on Confidential Information and all complete or partial copies or reproductions (in any form or medium) of Confidential Information.

(NDA ¶ 1(a)).

tors "who have a need to receive such Confidential Information

for the Agreed Purposes" (NDA ¶ 5). Finally, the NDA provided

that all outputs of the Test System can be used only for the

Agreed Purpose and may be

> retrieved from the Test System only after the inspec-
> tion and approval of the Disclosing Party. The Receiv-
> ing Party may not otherwise attempt to copy, transfer,
> retrieve, or recover any Confidential Software Informa-
> tion[13] by any means. **THE RECEIVING PARTY IS EXPRESSLY
> PROHIBITED FROM DECOMPILING, DISASSEMBLING, OR REVERSE
> ENGINEERING CONFIDENTIAL SOFTWARE INFORMATION BY COMPU-
> TATIONAL ANALYSIS OR BY ANY OTHER MEANS.**

(NDA ¶ 2 (emphasis in original)).

On March 2, 1998 plaintiff agreed to allow the defen-

dants to undertake a third test of ACE in exchange for $5,000,

and both parties subsequently amended the NDA so that the "Agreed

Purposes" included "disclosure of the Software to Salomon to

permit Salomon to evaluate the Software (in accordance [with the

conditions set forth above]) for a period of 30 days . . . (the

'Trial Period')" (Amendment to the Mutual Non-Disclosure Agree-

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[13]The NDA defines "Confidential Software Information" as

> (A) computer codes and other proprietary information or
> materials of AAI as the Disclosing Party involving
> AAI's proprietary numerical sequences, which may be
> released to a computer system of Salomon as the
> Receiving Party to be tested, and (B) any derivation or
> variation based on or derived from Confidential
> Software Information identified in (A). Such variation
> includes, but is not limited to, any transformation,
> encryption or decryption, partition, permutation,
> perturbation, truncation, and amalgamation.

NDA ¶ 1(b).

ment ("NDA Amendment"), dated February 26, 1998, at ¶ 2, attached

as Ex. 1 to the Kennedy Decl.). The NDA Amendment also provided

that "upon expiration of the Trial Period . . . the parties shall

each promptly comply with their obligations under Section 7 of

the Agreement[14] to return . . . all Confidential Information and

related materials" (NDA Amendment ¶ 6).

Finally, the NDA specifically provided that it "shall

be governed by and construed in accordance with the law of the

State of New York" (NDA ¶ 15).

   C.   Testing and License Negotiations

Pursuant to the conditions established in the NDA,

defendants performed four tests of various versions of the ACE

sequences between April 1997 and June 1998; Wang and Dr. Robert

Russell, Vice President of Citigroup Global Market's Mortgage

Research Department, supervised these tests (Def. 56.1 Stat. ¶¶

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[14]Section 7 of the NDA provides that

> the Receiving Party shall return to the Disclosing
> Party immediately and unconditionally, without regard
> to any claim or demand of the Receiving Party, all
> documents drawings, sketches, designs and other record
> bearing media comprising, containing, derived or based
> on Confidential Information together of all copies
> thereof, upon the earliest of (i) request by the
> Disclosing Party, (ii) completion of the Agreed
> Purposes, or (iii) upon receipt of notice of breach . .
> . .

(NDA ¶ 7).

58-60; Declaration of Robert Russell, dated February 12, 2008, at

¶¶ 5-7; Declaration of Dr. Xiaolu Wang ("Wang Decl."), dated

April 24, 2008, at ¶¶ 36-37, attached as Ex. E to the Declaration

of Todd Collins ("Collins Decl."), dated April 24, 2008). In

advance of the fourth and final test of ACE, plaintiff sent

defendants a document entitled "License Proposal (Preliminary

Draft)" which proposed that in return for defendants' use and

right to sub-license ACE, defendants pay (1) an annual fee of

seven percent of the Yield Book licensing revenues, (2) a

$750,000 annual licensing-fee and (3) a one-time installation fee

of $250,000 (AAI License Proposal, dated June 2, 1998, attached

as Ex. 34 to the Declaration of Christopher P. Moore, Esq.

("Moore Decl."), dated February 15, 2008; see also Expert Report

of Dr. Russel W. Mangum III ("Mangum Report"), dated October 15,

2007, at 6-7, attached as Ex. C to the Polakoff Decl.). Plain-

tiff claims that "the parties reached [an] agreement with respect

to the June 2, 1998 Terms" and that this agreement was a pre-

condition to the final test conducted on June 4, 1998 (Wang Decl.

¶ 40; Plaintiff's Response to Defendants' Statement of Allegedly

Undisputed Facts pursuant to Rule 56.1 ("Plf. 56.1 Resp."), dated

April 24, 2008, at ¶ 65). Defendants claim that they never

entered into a licensing agreement with plaintiff (Def. 56.1

Stat. ¶ 76; Russel Decl. ¶¶ 11-16). Plaintiff alleges that

during the fourth test of ACE, defendants programmed the Test

Computer to capture and save either the the ACE sequences various interest rate scenarios generated by ACE or(Compl. ¶¶ 65, 67).

Approximately three weeks after the fourth test of ACE, Dr. Steve Mandel, the president of Salomon Analytics Inc., sent Wang a counter-proposal on behalf of defendants in which defendants offered to license ACE for $100,000 for the first year and $50,000 for each additional year, with an option to cancel the license on ninety-days notice (Letter from Dr. Steve Mandel, attached as Ex. 39 to the Moore Decl.; Def. 56.1 Stat. ¶ 72).[15] Plaintiff claims that this letter was "a ruse [designed to cover up the theft of ACE] and not offered in good faith" (Wang Decl. ¶ 41; Plf. 56.1 Resp. ¶ 72; Compl. ¶ 71). In the months following defendants' "counter-proposal," despite Wang's concern that defendants were misappropriating ACE (Compl. ¶¶ 64-66; Plf. 56.1 Resp. ¶ 93), plaintiff submitted several additional proposals each of which "demanded $1,000,000 in total, albeit in different

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[15]Mandel testified at his deposition that he arrived at this counter-proposal based on the value of the increased efficiency of ACE in computing the value of MBSs which would save defendants hardware costs because they would need fewer computers to do the requisite calculations (Deposition of Dr. Steve Mandel conducted on September 11, 2007 ("Mandel Dep.") at 18, 25-29, attached as Ex. E to the Polakoff Decl.). Mandel also testified that he did not believe that ACE was more accurate than the Yield Book's existing valuation method and, in any event, he was not seeking to use ACE as a way to make money by buying undervalued MBSs (Mandel Dep. at 29-31). Plaintiff questions Mandel's testimony on the grounds that (1) Mandel never estimated the savings that would result from reduced hardware requirements and (2) sought the right to use ACE across all departments of Salomon including the trading desk (Plf. 56.1 Resp. ¶ 72; Mangum Report at 7).

forms of fees" (Def. 56.1 Stat. ¶ 74; Letter from Dr. Xiaolu Wang to Dr. Steve Mandel, attached as Ex. 40 to the Moore Decl.; Letter from Dr. Xiaolu Wang, dated September 23, 1998, attached as Ex. 41 to the Moore Decl.). The defendants did not submit any further written offers (Mandel Dep. at 14).

      D. Defendants Develop a
          New 100-path Sequence

Defendants hired Dr. Mikhail Teytel in July 1998 and asked him to develop a means to reduce the number of paths used in the Monte Carlo simulation component of the Yield Book without compromising the model's accuracy (Def. 56.1 Stat. ¶¶ 77, 78; Deposition of Dr. Mikhail Teytel conducted on May 17, 2007 and July 30, 2007 ("Teytel Dep.") at 44-45, 49, portions of which are attached as Ex. 43 to the Moore Decl., Ex. H to the Polakoff Decl., and Ex. A to Munves Decl. #1). In preparation for this assignment, Teytel reviewed background information including summaries of the ACE test results prepared by Russell (Teytel Dep. at 18-28).

According to defendants' version of events, after several months of work Teytel developed a "Mixed-Seed Algorithm" which he used to select multiple seeds to feed into defendants' random number generator (Def. 56.1 Stat. ¶ 79; Mixed Seed Algorithm, attached as Ex. 44 to the Moore Decl.). Teytel sought to combine eight smaller sequences, each generated by one of his

seeds and covering a different interval of time over the course

of the 30 year life of a pool of mortgages, into one final

sequence (Def. 56.1 Stat. ¶ 79).[16] In order to pick the best

seed for each time interval, Teytel tested thousands of seeds

(Mixed Seed Algorithm attached as Ex. 44 to the Moore Decl.; see

also 2nd Fan Decl. ¶¶ 47-55). In addition, Teytel manipulated

the Option Adjusted Spread ("OAS") to emphasize "the time inter-

vals associated with each seed" (Def. 56.1 Stat. ¶ 80).[17]

Teytel initially used his Mixed Seed Algorithm to

develop a 64-path mixed-seed sequence.[18] But when he tested the

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[16]Dr. Teytel explained his methodology as follows:

A:	A mixed seed is a methodology that I have developed that pieces a sequence out of several sequences, each applied during a certain time period.
Q:	Can you give an example of what you mean?
A:	Sequence that generated by the first seed would be used between time zero and n1, for the time between n1 and n2, and there would be another sequence generated by a different seed, during time n2 to n3 there would be a third sequence generated by a third seed and so on.

(Teytel Dep. at 65).

[17]Teytel testified that in order to select the OAS that he applied to each seed he started with large positive numbers and then used monotonically decreasing numbers (Teytel Dep. 476).

[18]Teytel testified as follows regarding his decision to attempt to create a 64-path sequence

accuracy of this sequence, he discovered that it was inferior to defendants' 200-path single-seed production sequence (Def. 56.1 Stat. ¶ 83; Teytel Dep. at 121-22; 566). As a result, defendants never used this sequence in their Yield Book (Teytel Dep. at 371).

Teytel subsequently used the same methodology to develop a 100-path mixed-seed sequence (Def. 56.1 Stat. ¶¶ 83, 85). Teytel testified that "once the 100-path mixed-seed sequence ha[d] been generated, I attempted to compare the accuracy of my mixed-seed sequence versus the accuracy of the production sequence and versus the accuracy of the ACE-64 sequence" (Teytel Dep. at 183-84; Def. 56.1 Stat. ¶ 85). Teytel also testified

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[18](...continued)

Q:	The first number that you picked as a path to try to create sequences was 64; is that correct?
A:	That's correct.
Q:	How did you come up with that number?
A:	I am not 100 percent sure but it could be that [] was because Dr. Wang used that number.
Q:	You don't know of any other explanation, do you?
A:	Well, 64 is a nice round number . . . . by round number I meant 2 to the power.
Q:	I understand that. But there's lots of other 2 to the power numbers, correct?
A:	That's all I could come up with right now.

(Teytel Dep. at 136-37).

that in order to conduct this comparison he was provided with electronic files indicating the exact conditions and inputs used to test ACE -- i.e. date, list of bonds, list of scenarios, CMO library, the OASs used to price the bonds, information about current trades, mortgage rates, and U-curves -- as well as the prices produced during the tests (Teytel Dep. at 231-33). He then tested his 100-path mixed-seed sequence using the aforemen-tioned inputs and compared his results to a summary[19] of the ACE test results[20] (Teytel Dep. at 183-84; Def. 56.1 Stat. ¶ 85). Teytel explained that this comparison was "not necessary . . . to complete his work" (Teytel Dep. at 318) and was conducted solely for "vanity purposes" -- to get a sense of the accuracy of his own sequence (Teytel Dep. at 185). After conducting this compar-ison, Teytel concluded that his 100-path sequence was similar in accuracy to ACE (Teytel Dep. at 186). Finally, Teytel testified that at no time did he have access to the ACE sequence (Teytel Dep. at 317, 320).

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[19]A document entitled "Summary of Tests for Quasi Random Numbers," dated June 26, 1998, is attached as Ex. 38 to the Moore Decl. Neither of the parties references or cites this document as the document provided to Teytel and, from the limited excerpts of Teytel's testimony provided in connection with this motion, it is unclear if Teytel was questioned about this document.

[20]Teytel testified that he could not remember if he had been provided the test results themselves or just a summary of those results (Teytel Dep. at 22-24; 30-31 ("I might have had access to the electronic version of test results . . . .")).

The defendants implemented Teytel's 100-path mixed-seed sequence into the Yield Book in either April or October of 1999 and continued to license and use this sequence until approximately February 2001 (Def. 56.1 Stat. ¶ 90; Def. Ans. to Interrogatories at 5). During the same time period, defendants' traders also utilized a 1000-path single-seed sequence (2nd Fan Decl. ¶ 61; Letter from Christopher Moore, dated September 7, 2007, attached as Ex. R to Munves Decl. #2). Beginning in September 2000, defendants began using a 200-path mixed-seed sequence, which had also been developed by Teytel and which was allegedly more accurate than the 100-path sequence (Teytel Dep. at 92-93).

E.   Plaintiff's Allegations of Misappropriation

Plaintiff alleges that instead of developing their own sequence, defendants programmed the Test Computer to capture the interest rate scenarios generated by ACE and that Teytel then used this information to create his sequence (Plf. 56.1 Stat. ¶ 12; Compl. ¶ 67).

During the fourth test of ACE, Wang became suspicious that defendants were misappropriating ACE and questioned Russell about what he perceived to be file accumulation (Plf. 56.1 Resp. ¶ 93; Compl. ¶ 66). Although Wang's fears were initially alleviated by Russel's assurances that the NDA would protect plain-

tiff's trade secret (Plf. 56.1 Resp. ¶ 93), plaintiff now alleges
that defendants used the fourth test to capture the distribution
of the future interest rate paths generated by ACE (Plf. 56.1
Resp. ¶ 128; 2nd Fan Decl. ¶¶ 59-60). Accordingly, Teytel's
"Mixed-Seed Algorithm" was allegedly a method by which he
"reverse-engineered" or "targeted" the distribution characteris-
tics of ACE in developing his 100-path and 200-path mixed-seed
sequences (Compl. ¶ 83; 2nd Fan Decl. ¶¶ 59-60, 96, 119-23).
Plaintiff also alleges that defendants' 1000-path sequence was,
in actuality, a combination of the 32-path, 64-path, and 128-path
ACE sequences (2nd Fan Decl. ¶ 69, 121). From 1999 through 2003,
defendants' traders allegedly utilized this "Super ACE 896-path
sequence" to make arbitrage profits at the expense of their
institutional clients (2nd Fan Decl. ¶ 70). Moreover, as a
result of defendants' alleged misappropriation of ACE, plaintiff
alleges that its negotiations collapsed with other producers of
financial services software and with the institutional clients of
the Yield Book (Compl. ¶¶ 91-92 94).

III. Analysis

Plaintiff moves for partial summary judgment on the
issue of defendants' liability for breach of the NDA. Defen-
dants' move for summary judgment dismissing all of plaintiff's

claims and granting defendants' counter-claim for attorneys' fees

and costs.

    A.   <u>Summary Judgment Standard</u>

      The standards applicable to a motion for summary

judgment are well-settled and require only brief review.

> Summary judgment shall be granted when there is no
> genuine issue of material fact and the moving party is
> entitled to judgment as a matter of law. Fed.R.Civ.P.
> 56(c). This form of relief is appropriate when, after
> discovery, the party -- here plaintiff -- against whom
> summary judgment is sought, has not shown that evidence
> of an essential element of her case -- one on which she
> has the burden of proof -- exists. <u>See</u> <u>Celotex Corp.</u>
> <u>v. Catrett</u>, 477 U.S. 317, 323, 106 S.Ct. 2548, 91
> L.Ed.2d 265 (1986). This form of remedy is inappropri-
> ate when the issue to be resolved is both genuine and
> related to a disputed material fact. An alleged fac-
> tual dispute regarding immaterial or minor facts be-
> tween the parties will not defeat an otherwise properly
> supported motion for summary judgment. <u>See</u> <u>Howard v.</u>
> <u>Gleason Corp.</u>, 901 F.2d 1154, 1159 (2d Cir. 1990).
> Moreover, the existence of a mere scintilla of evidence
> in support of nonmovant's position is insufficient to
> defeat the motion; there must be evidence on which a
> jury could reasonably find for the nonmovant. <u>Anderson</u>
> <u>v. Liberty Lobby, Inc.</u>, 477 U.S. 242, 252, 106 S.Ct.
> 2505, 91 L.Ed.2d 202 (1986).

> If the movant demonstrates an absence of a genuine
> issue of material fact, a limited burden of production
> shifts to the nonmovant, who must "demonstrate more
> than some metaphysical doubt as to the material facts,"
> and come forward with "specific facts showing that
> there is a genuine issue for trial." <u>Aslanidis v.</u>
> <u>United States Lines, Inc.</u>, 7 F.3d 1067, 1072 (2d Cir.
> 1993). If the nonmovant fails to meet this burden,
> summary judgment will be granted against it.

<u>Powell v. Nat'l Bd. of Med. Exam'rs</u>, 364 F.3d 79, 84 (2d Cir.

2004); <u>accord</u> <u>Rubens v. Mason</u>, 527 F.3d 252, 254 (2d Cir. 2008);

Jeffreys v. City of New York, 426 F.3d 549, 553-54 (2d Cir. 2005).

"In moving for summary judgment against a party who will bear the ultimate burden of proof at trial, the movant may satisfy [its] burden by pointing to an absence of evidence to support an essential element of the nonmoving party's claim." Vann v. City of New York, 72 F.3d 1040, 1048 (2d Cir. 1995). "A defendant moving for summary judgment must prevail if the plain-tiff fails to come forward with enough evidence to create a genuine factual issue to be tried with respect to an element essential to its case." Allen v. Cuomo, 100 F.3d 253, 258 (2d Cir. 1996).

"In determining whether a genuine issue of material fact exists, a court must examine the evidence in the light most favorable to, and draw all inferences in favor of, the non-movant . . . . Stated more succinctly, '[t]he evidence of the non-mov-ant is to be believed.'" Lucente v. Int'l Bus. Machs. Corp., 310 F.3d 243, 253-54 (2d Cir. 2002), quoting Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 255 (1986); accord Jeffreys v. City of New York, supra, 426 F.3d at 553 ("Assessments of credibility and choices between conflicting versions of the events are matters for the jury, not for the court on summary judgment.") (internal quotation marks omitted); see also Make the Road by Walking, Inc.

v. Turner, 378 F.3d 133, 142 (2d Cir. 2004); Dallas Aerospace,
Inc. v. CIS Air Corp., 352 F.3d 775, 780 (2d Cir. 2003).

      "Material facts are those which 'might affect the
outcome of the suit under the governing law,' and a dispute is
'genuine' if 'the evidence is such that a reasonable jury could
return a verdict for the nonmoving party.'" Coppola v. Bear
Stearns & Co., 499 F.3d 144, 148 (2d Cir. 2007), quoting Anderson
v. Liberty Lobby, Inc., supra, 477 U.S. at 248; accord McCarthy
v. Dun & Bradstreet Corp., 482 F.3d 184, 202 (2d Cir. 2007).
"'[I]n ruling on a motion for summary judgment, a judge must ask
himself not whether he thinks the evidence unmistakably favors
one side or the other but whether a fair-minded jury could return
a verdict for the [non-movant] on the evidence presented[.]'"
Cine SK8, Inc. v. Town of Henrietta, 507 F.3d 778, 788 (2d Cir.
2007), quoting Readco, Inc. v. Marine Midland Bank, 81 F.3d 295,
298 (2d Cir. 1996).

     B. Plaintiff's Motion for
        Partial Summary Judgment

      Plaintiff moves for partial summary judgment on the
grounds that defendants breached the NDA by providing Teytel with
either (1) a summary of the ACE test results or (2) the actual

test results showing the accuracy of the prices generated by ACE

in valuing various securities (Plf. Mem. at 1, 9-11).[21]

Defendants cross-move for summary judgment on this

claim, arguing that plaintiff's breach of contract claim fails as

a matter of law because (1) "AAI has not articulated how [its]

distribution characteristics differ in any material way from the

characteristics of any other publicly known sequences of numbers"

(Memorandum of Law of Defendants in Support of their Motion for

Summary Judgment ("Def. Mem."), dated February 15, 2008, at 27-

28; Memorandum of Law of Defendants in Opposition to Plaintiff

AAI's Motion for Partial Summary Judgment ("Def. Opp."), dated

April 9, 2008, at 25) and, therefore, "AAI has offered no compe-

tent evidence whatever that the ACE Numbers are sufficiently

novel to constitute either a trade secret or any other form of

confidential information that is subject to the restrictions of

the NDA" (Def. Opp. at 25) and (2) AAI has failed to present

evidence from which a jury could calculate the damages resulting

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[21]Plaintiff's moves for partial summary judgment only with
respect to defendants' liability for improperly sharing the ACE
test results with Teytel ("first breach of contract claim")
(Compl. ¶¶ 104-06; Plf. Mem. 1, 9-11). Plaintiff does not,
however, move for summary judgment with respect to its broader
claim that defendants breached the NDA by (1) making copies of
ACE, (2) using those copies to make arbitrage profits in trading,
and (3) using those copies to develop their own sequences
("second breach of contract claim") (Compl. ¶¶ 103, 107-09). I
address plaintiff's second breach of contract claim in section
III(C)(3), infra.

from Teytel's improper use of the ACE test results (Def. Mem. at 35-36; Def. Opp. at 16-22).

      1.   Defendants' Breach of the NDA

      Under New York law,[22] "[t]o establish a prima facie case for breach of contract, a plaintiff must plead and prove: (1) the existence of a contract; (2) a breach of that contract; and (3) damages resulting from the breach." Nat'l Mkt. Share, Inc. v. Sterling Nat'l Bank, 392 F.3d 520, 525 (2d Cir. 2004), citing RIJ Pharm. Corp. v. Ivax Pharms., Inc., 322 F. Supp.2d 406, 412 (S.D.N.Y. 2004); First Investors Corp. v. Liberty Mut. Ins. Corp., 152 F.3d 162, 168 (2d Cir. 1998); R.F.M.A.S., Inc. v. Mimi So, 619 F. Supp.2d 39, 87 (S.D.N.Y. 2009).[23]

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[22]In addition to the choice-of-law provision in the NDA requiring the application of New York law, both sides cite to New York law in their memoranda and, therefore, have stipulated that New York law governs all aspects of this dispute. See e.g. Texaco A/S (Denmark) v. Commercial Ins. Co., 160 F.3d 124, 128 (2d Cir. 1998)("where the parties have agreed to the application of the forum law, their consent concludes the choice of law inquiry"), quoting Am. Fuel Corp. v. Utah Energy Dev. Co., 122 F.3d 130, 134 (2d Cir. 1997); British Intern. Ins. Co. Ltd. v. Seguros La Republica, S.A., 342 F.3d 78, 81 (2d Cir. 2003).

[23]A breach of contract claim may present additional issues where a party asserts an ambiguity in the contract. See generally Compagnie Financiere de CIC et de L'Union Europeenne v. Merrill Lynch, Pierce, Fenner & Smith Inc., 232 F.3d 153, 157 (2d Cir. 2000); accord In re Delta Air Lines, Inc., 313 F. App'x 430, 434 (2d Cir. 2009); Topps Co., Inc. v. Cadbury Stani S.A.I.C., 526 F.3d 63, 68 (2d Cir. 2008). Neither party in this case asserts that there is an ambiguity in the NDA.

As discussed above, under the NDA, Confidential Software Information, a subset of the broad category of Confidential Information, is defined as "computer codes and other proprietary information or materials of AAI as the Disclosing Party involving AAI's proprietary numerical sequences" and "any derivation or variation" of these sequences (NDA ¶ 1(b)). The NDA further provided that Confidential Software Information could only be used for the Agreed Purposes and would be "released" to the Test System only in plaintiff's presence with strict restrictions (NDA ¶ 2). The parties do not dispute that, pursuant to the NDA, the defendants conducted four tests of ACE using the Test System described above. The NDA also clearly indicates that all "outputs of the Test System . . . [may] be used only for the Agreed Purpose." (NDA ¶ 2). Defendants, therefore, breached the NDA when Teytel used the test results -- outputs of the Test System[24] -- to determine the relative accuracy of his 100-path mixed-seed sequence.[25]

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[24]In addition, the test results themselves may constitute Confidential Information because they are "information or materials derived from or based on Confidential Information" -- i.e. AAI's proprietary numerical sequences (NDA ¶ 1(a)).

[25]Defendants also breached section 7 of the NDA which obligates the Receiving Party to return "all documents, drawings, sketches, designs and other record bearing media comprising, containing, derived or based on Confidential Information" upon completion of the Agreed Purposes or upon receipt of notice of breach (NDA ¶ 7). Plaintiff does not, however, specifically address this potential breach of the NDA in its memoranda and,
(continued...)

2.   <u>Publicly Available Information</u>

Notwithstanding their use in violation of the NDA, defendants argue that summary judgment on plaintiff's breach of contract claim should be denied because plaintiff has not offered sufficient evidence that the "distribution characteristics of ACE differ in any material way from the characteristics of other publicly known sequences" and, therefore, "AAI has offered no competent evidence whatever that the ACE numbers are sufficiently novel to constitute . . . confidential information that is subject to the restrictions of the NDA" (Def. Opp. at 25; Def. Mem. at 27-28). I understand defendants to be arguing that plaintiff has not offered evidence that the ACE sequence is not publicly known and, therefore, not within the definition of Confidential Information.

As discussed above, the unambiguous "Confidential Software" clause of the NDA specifically includes "computer codes and other proprietary information or materials . . . involving AAI's proprietary numerical sequences" within the definition of "Confidential Information" (NDA ¶ 1(b)). The broad definition of Confidential Information, under the NDA, contained only five limited exceptions for information which:

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[25](...continued)
accordingly, I decline to grant summary judgment against the defendants with respect to this potential breach of the NDA.

>   (i) was publicly known and made generally available in
>   the public domain prior to the disclosure by the Dis-
>   closing Party, (ii) becomes publicly known and gener-
>   ally available in the public domain through no action
>   or inaction by the Receiving Party, (iii) was right-
>   fully acquired by the Receiving party prior to receipt
>   from the Disclosing Party, as shown by the Receiving
>   Party's files and records prior to the time of disclo-
>   sure, (iv) is developed independently by the Receiving
>   Party, without any use of or reference to the Disclos-
>   ing Party's Confidential Information, as shown by
>   documents and other competent evidence in the Receiving
>   Party's possession, (v) is required by law to be dis-
>   closed by the Receiving Party . . . . In the event, of
>   a disputed disclosure, the Receiving Party shall bear
>   the burden of proof of demonstrating that the informa-
>   tion falls under one of the within-described excep-
>   tions.

(NDA ¶ 1(a)). Under the terms of the NDA, the defendants,

therefore, bear the burden of demonstrating that ACE was publicly

known and generally available in the public domain. The defen-

dants offer no evidence on this issue and, therefore, this

argument is unavailing.

        The defendants also claim that they cannot be liable

for breach of contract because the ACE sequence actually belongs

to IBM (Def. Opp. at 22-23). Defendants' argument relies on the

fact that while employed by IBM, Wang developed a "deterministic

simulation or a low-discrepancy sequence approach" which could be

used in place of Monte-Carlo simulation to price securities such

as MBSs (see Securities Industry Daily, IBM Unveils New Pricing

System for Derivatives and CMOs (September 28, 1995), attached as

Ex. T to the Collins Decl.; Technology Supplement, Speeding Up

Monte Carlo (August 1995), attached as Ex. G to the Collins

Decl.). Wang admits that he worked on a "deterministic simula-

tion blaster" ("DSB")[26] while employed with IBM (Wang Dep. at

365-66) but he explains that after leaving IBM he developed ACE

"from scratch" after over a year of research (Wang Dep. at 203-

05). With regard to the difference between DSB and ACE, Wang

stated

> ACE was far more sophisticated, entailing dozens of
> pages of code as opposed to perhaps a couple of pages
> of code for DSB. DSB was intended for simpler deriva-
> tives that can allow tens of thousands of paths of
> simulation in real time. As test results published by
> IBM have shown, DSB did not significantly outperform
> Monte Carlo simulation where the number of paths are
> below 5,000. . . . Even though pricing MBSs and CMOs
> was an ultimate goal, DSB could not be used to price
> MBSs or CMOs in production, but only other types of
> derivative securities. These other types of deriva-
> tives have dimensions much lower than the hundreds of
> dimensions required for CMOs and permit the use of
> thousands of paths.

(Wang Decl. at ¶¶ 10-11; see generally IBM Blasts Monte Carlo

Models (November 1995), attached as Ex. 15 to Moore Decl. #1

("this new form of deterministic simulation may work much better

for some instruments than for others"), quoting Mark Garman,

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[26]Dr. Wang described the deterministic simulation blaster as
capable of

> speeding up of Monte Carlo at very low number of paths
> as low as 10,000 paths or even several thousand paths
> therefore made application of low discrepancy sequence
> a reality for security pricing because if you run one
> million paths, nobody can wait that long to get the
> price.

(Wang Dep. at 206).

president of Financial Engineering Associates). At his deposi-
tion, Wang also offered to demonstrate some of the differences
between the code underlying DSB and ACE (Wang Dep. at 875).
Finally, IBM has been subpoenaed in this action and has provided
documents regarding the DSB, but IBM has never asserted that it
owns ACE.

> The defendants have not produced any evidence contro-
verting the aforementioned evidence demonstrating that ACE is
Wang's proprietary invention and, accordingly, defendants'
argument that ACE falls outside the scope of the NDA is also
unavailing.[27]

3.   Adequate Consideration

> The defendants also appear to argue[28] that plaintiff's
contract claim is precluded as a matter of law because there is

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[27]Because I need not do so, I do not address the issue of
whether ACE constitutes a "trade secret" for purposes of
plaintiff's misappropriation claim.

[28]The main thrust of defendants' argument is that ACE
constitutes publicly available information outside the scope of
the NDA. In making this argument, however, defendants cite to
Alliance Sec. Prods., Inc. v. Fleming Co., 471 F. Supp.2d 452,
459 n.47 (S.D.N.Y. 2007) in which the Honorable Lewis A. Kaplan,
United States District Judge, dismissed plaintiff's contract
claim because plaintiff's proposed product and marketing ideas
were not novel with respect to the defendant and, therefore, the
confidentiality agreement lacked consideration. Accordingly, to
avoid the possibility of a remand, I construe defendants' as also
raising an argument as to the adequacy of the consideration
supporting the NDA.

no evidence in the record sufficient to sustain a finding that plaintiff's sequence was not known to defendants prior to the execution of the NDA (Def. Mem. at 27-28; Def. Opp. at 24).

This argument is based primarily on the principles set forth in Nadel v. Play-By-Play Toys & Novelties, Inc., 208 F.3d 368 (2d Cir. 2000) and Apfel v. Prudential-Bache Secs., Inc., 81 N.Y.2d 470, 616 N.E.2d 1095, 600 N.Y.S.2d 433 (1993) which set forth the differing novelty and originality requirements for claims base on violations of non-disclosure agreements and claims based on misappropriation of inventions.

In Nadel, a toy inventor disclosed a proposed toy to defendant, a toy manufacturer. It appears that there was no dispute that the custom in the toy industry was that when such a disclosure was made, the manufacturer was obligated to compensate the inventor if the manufacturer used the idea and the idea was not already known to the manufacturer. The toy manufacturer subsequently produced a toy based on plaintiff's idea without compensating plaintiff, and plaintiff asserted a breach-of-contract claim and a claim for misappropriation of plaintiff's idea. Applying New York law, the Court of Appeals for the Second Circuit affirmed in part and vacated in part the District Court's grant of summary judgment in favor of the manufacturer.

The Court first explained that a non-disclosure agree-ment, like all contracts required consideration to be enforcible,

208 F.3d at 374-75, and that if the idea disclosed pursuant to

such an agreement is already known to the receiving party, there

was no consideration and the non-disclosure agreement is

unenforcible. 208 F.3d at 375. On the other hand, where the

plaintiff is proceeding on a misappropriation theory and claiming

that its idea is protectable even in the absence of a contract,

he must prove that its idea is original and novel as to the whole

world. 208 F.3d at 375-76. The Court of Appeals summarized its

holdings as follows:

> In sum, we find that New York law in submis-
> sion-of-idea cases is governed by the following princi-
> ples: Contract-based claims require only a showing
> that the disclosed idea was novel to the buyer in order
> to find consideration. Such claims involve a
> fact-specific inquiry that focuses on the perspective
> of the particular buyer. By contrast, misappropriation
> claims require that the idea at issue be original and
> novel in absolute terms. This is so because unorigi-
> nal, known ideas have no value as property and the law
> does not protect against the use of that which is free
> and available to all. Finally, an idea may be so
> unoriginal or lacking in novelty generally that, as a
> matter of law, the buyer is deemed to have knowledge of
> the idea. In such cases, neither a property-based nor
> a contract-based claim for uncompensated use of the
> idea may lie.

208 F.3d at 380 (footnote omitted). Accord Hudson v. Universal

Studios, Inc., 04 Civ. 6997 (GEL), 2008 WL 4701488 at *7

(S.D.N.Y. Oct. 23, 2008); Alliance Sec. Prods., Inc. v. Fleming

Co., supra, 471 F. Supp.2d at 459 n.47; Kavanau v. Courtroom

Television Network, 91 Civ. 7959 (RPP), 1992 WL 197430 at *4

(S.D.N.Y. Aug. 3, 1992); see also Keller v. Am. Chain Co., 255
N.Y. 94, 174 N.E. 74 (1930).

Although courts must be particularly careful in resolv-
ing summary judgment motions where the state of a party's knowl-
edge is in issue, see Wechsler v. Steinberg, 733 F.2d 1054, 1058
(2d Cir. 1984) (questions of knowledge and intent usually inap-
propriate for decision on summary judgment); see also Island
Software & Computer Serv., Inc. v. Microsoft Corp., 413 F.3d 257,
264 (2d Cir. 2005); Robertson v. Seidman & Seidman, 609 F.2d 583,
591 (2d Cir. 1979), I conclude that the record here does estab-
lish that there is no genuine issue of fact that defendants did
not have knowledge of plaintiff's sequence at the time defendants
executed the NDA. See AEB & Assoc. Design Group, Inc. v. Tonka
Corp., 853 F. Supp. 724, 734 (S.D.N.Y. 1994) ("Whether an idea is
novel is an issue of law which may properly be decided on a
motion for summary judgment.") First, Hayre, Russell and Mande-
ll, defendants' Managing Director of Mortgage Research, Vice
President of Global Market's Mortgage Research Department,[29] and
President of Salomon Analytics, Inc./President of the Yield Book,
respectively, all testified that ACE utilized fewer paths and it
was, therefore, a faster production sequence than anything the
defendants had at the time they entered into the NDA (Hayre Dep.

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[29]Russell was also primarily involved in the testing of ACE
and in supervising Teytel's research.

at 238; Russel Dep. at 250-51; Mandel Dep. at 16-19, 25-29).

This testimony constitutes a compelling admission that ACE was

not known to defendants. Second, on March 2, 1998, after con-

ducting two extensive tests of ACE, the defendants paid plaintiff

an additional $5,000 and signed an amended version of the NDA to

permit further testing of ACE. If defendants had prior, inde-

pendent knowledge of ACE, they would not have entered into this

transaction. Third, after completing all four tests of ACE,

defendants offered plaintiff $100,000 to license ACE (Letter from

Steve Mandel, attached as Exhibit 39 to the Moore Decl.; Def.

56.1 Stat. ¶ 72). Again, this offer is irreconcilably inconsis-

tent with an argument that defendants had independent knowledge

of ACE. Fourth, there is no contemporaneous correspondence from

defendants to plaintiff in which defendants claim that they

already knew of the ACE sequence, nor is their any documentary

evidence that predates the NDA that remotely suggests that

defendants were aware of the ACE sequence. ACE is the product of

a complex series of mathematical computations; ACE, or any

analog, would not exist without a substantial documentary record

of its creation. The lack of documentary evidence, either

claiming knowledge or documenting defendants' independent deriva-

tion or creation of ACE, or an analog, in conjunction with

defendants' offer to take a license from plaintiff, is not only

irreconcilably inconsistent with defendants' claim of knowledge,

it compellingly implies a lack of knowledge. I conclude that

this evidence is sufficiently powerful to establish that defen-

dants had no knowledge of the ACE sequence prior to the execution

of the NDA.[30] Thus, the NDA is supported by sufficient consider-

ation.

4. Failure to Establish Damages

Notwithstanding the clear evidence that defendants

improperly retained and used test results that were subject to

the NDA, defendants nevertheless claim that they are entitled to

summary judgment dismissing this claim, arguing that the claim

"fails as a matter of law, because AAI has proffered no evidence

whatever that [Teytel's use of the ACE test results] caused AAI

to suffer any damages" (Def. Opp. at 16; Def. Mem. at 33-34).

The consequences of a plaintiff's failure in a contract

action to prove actual damages are not entirely clear under New

York law. The New York case law on the subject appears to be

somewhat inconsistent. On the one hand, a wealth of New York

state cases and federal cases applying New York law have squarely

stated that damages are an element of a claim for breach of

contract. Nat'l Mkt. Share, Inc. v. Sterling Nat'l Bank, supra,

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[30]Although defendants also argue that ACE was not novel as
to the world, this contention is immaterial to plaintiff's breach
of contract claim under Nadel v. Play-By-Play Toys & Novelties,
Inc., supra, 208 F.3d 368, and its progeny.

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392 F.3d at 525; First Investors Corp. v. Liberty Mut. Ins.

Corp., supra, 152 F.3d at 168; RIJ Pharm. Corp. v. Ivax Pharms.,

Inc., supra, 322 F. Supp.2d at 412; R.F.M.A.S., Inc. v. Mimi So,

supra, 619 F. Supp.2d at 87; Cramer v. Spada, 203 A.D.2d 739,

741, 610 N.Y.S.2d 662, 664 (3d Dep't 1994) ("[t]he failure to

prove damages is . . . fatal to [a] plaintiff's breach of con-

tract cause of action.").

On the other hand, a substantial number of New York

cases, including cases from the New York Court of Appeals have

unequivocally stated that nominal damages are always recoverable

where a breach of contract is established, even "[w]hen the

existence of damage is uncertain or speculative . . . ." Contem-

porary Mission, Inc. v. Famous Music Corp., 557 F.2d 918, 926 (2d

Cir. 1977); see also Kronos, Inc. v. AVX Corp., 81 N.Y. 24, 90,

95, 612 N.E.2d 289, 292, 595 N.Y.S.2d 931, 934 (1993) ("[n]ominal

damages are always available in breach of contract actions");

Ely-Cruikshank Co. v. Bank of Montreal, 81 N.Y.2d 399, 402, 615

N.E.2d 985, 987, 599 N.Y.S.2d 501, 503 (1993); Koren-DiResta

Const. Co. v. New York City School Const. Auth., 293 A.D.2d 189,

192, 740 N.Y.S.2d 56, 59 (1st Dep't 2002); Lai v. Lau, 175 Misc.

2d 876, 878, 670 N.Y.S.2d 724, 725 (Sup. Ct. Kings Co. 1998); see

City of New York v. Cotroneo & Marino's United Elec. Co., 269

A.D.2d 154, 155, 703 N.Y.S.2d 79, 80 (1st Dep't 2000) ("It is

well settled that a cause of action for a breach of contract

occurs at the time of the breach though no damage, other than nominal, occurs until later."); Bevilaqua-Fiorino v. Top Class Limousine, 7 Misc. 3d 129(A), 2005 WL 856898 (App. T. 9th & 10th Dists. 2005) (awarding nominal damages against breaching limousine company even though defendant returned all payments received and replacement limousine company charged lower price). I have not found any authority that attempts to reconcile the two lines of authority.

I conclude that even if actual damage is an element of a breach of contract claim in New York, plaintiff has satisfied that element here by proving the fact of damage; none of the cases cited by defendants hold that dismissal of a breach of contract claim is appropriate as a result of a plaintiff's failure to prove the amount of its damages. See Bernshteyn v. Feldman, 04 Civ. 1774 (GEL), 2006 WL 2516514 at *4 (S.D.N.Y. Aug. 29, 2006). Accordingly, I recommend that summary judgment be granted in plaintiff's favor on its first breach of contract claim even if damage is an essential element.

Contract damages are generally limited to "an award of money damages in an amount reasonably calculated to make [the damaged party] whole" or return the plaintiff to "the position he or she would have been in had the defendant-promisor fully performed the contract." Samuel Williston & Richard A. Lord, Williston on Contracts § 64:1 (4th ed. 2003); Indu Craft, Inc. v. Bank of Baroda, 47 F.3d 490, 495 (2d Cir. 1995). Compensatory

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damages typically consist of "(1) restitution interest, which represents any benefit which the non-breach[ing] party bestowed upon the breaching party; (2) reliance interest, which represents any detriment which the non-breaching party suffered due to its reliance on the agreement; and (3) expectation interest, which represents any gain the non-breaching party would have realized from the contract but for the breach." 3947 Austin Boulevard Assocs., LLC v. M.K.D. Capital Corp., 04 Civ. 8596 (NRB), 2007 WL 1575265 at *2 (S.D.N.Y. May 30, 2007).

Defendants' improper use of the ACE test results violated plaintiff's restitutionary interest. Teytel used the ACE test results -- plaintiff's intellectual property -- to establish the validity of his own sequence and, presumably, thereby reduced the time and expense that would have resulted from the additional testing necessary to validate his sequence. If there were no reason for Teytel to compare his results to ACE's, he would not have done so. Thus, I presume the testing had value to defendants.

Plaintiff has, however, offered no evidence quantifying the damage to its restitutionary interest. Plaintiff's damages for defendants' breach could be approximated by evidence of the value of a license to use the ACE test results for research (i.e. non-investment) purposes. Plaintiff, however, has offered no such evidence. The only evidence in the record regarding plain-

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tiff's damages are the report of plaintiff's expert, Dr. Russel

W. Mangum, and the report of defendants' expert, Dr. Anthony

Sanders (Def. 56.1 Stat. ¶ 148; Plf. 56.1 Resp. ¶ 148; see also

Supplemental Responses to Defendants' Fourth Set of Interrogato-

ries at No. 13, attached as Ex. 71 to the Moore Decl.). Dr.

Magnum and Dr. Sanders' reports, however, do not address such a

limited license. Rather, they address the value of a license to

use and sublicense the ACE sequences directly for investment

purposes. Since neither of the expert reports address a license

for the limited use established by the evidence, they are not

probative of the injury suffered as a result of defendants'

breach of the NDA.

Plaintiff's own memoranda ignore this distinction and,

instead, claim that the ACE test results constitute plaintiff's

trade secret (Plf. Reply at 11 (Teytel "used the ACE trade

secrets, by his own admission, for purposes of testing the

accuracy of the 100 path sequence that Dr. Teytel claims to have

developed")). As discussed at page 7 n.10, supra, plaintiff has

repeatedly claimed that the ACE sequence itself, not the test

results, is the trade secret.

Plaintiff also attempts to conflate its first breach of

contract claim with its second breach of contract claim (Plf.

Reply at 9-10 ("Defendants' researcher, Dr. Teytel, impermissibly

used the ACE trade secrets and, in this connection, developed

sequences that defendants profitably licensed to Yield Book customers")). Plaintiff has not moved for summary judgment with respect to the claim that defendants breached the NDA by deriving sequences from ACE.

Thus, although there is evidence in the record establishing the fact of damage, plaintiff has offered no evidence quantifying that damage and, accordingly, there is no "stable foundation" from which a jury could reasonably estimate the damages directly traceable to the breach of the NDA upon which plaintiff moves for summary judgment. See Freund v. Washington Square Press, Inc., 34 N.Y.2d 379, 383, 314 N.E.2d 419, 423, 357 N.Y.S.2d 857, 861 (1974). Under these circumstances, plaintiff's breach of contract claim should not be dismissed, but plaintiff's recovery should be limited to nominal damages. Freund v. Washington Square Press, Inc., supra, 34 N.Y.2d at 383-84, 314 N.E.2d at 423, 357 N.Y.S.2d at 861 (1974) (where actual damage in breach of contract action not proven with the "required certainty . . . nominal damages alone are recoverable"); accord Burberry Ltd. v. Euro Moda, Inc., 08 Civ. 5781 (CM), 2009 WL 1675080 at *17 (S.D.N.Y. June 10, 2009); Raymond Weil, S.A. v. Theron, 585 F. Supp.2d 473, 488 (S.D.N.Y. 2008); Sit-Up Ltd. v. IAC/InterActive-Corp., 05 Civ. 9292 (DLC), 2008 WL 463884 at *15 (S.D.N.Y. Feb. 20, 2008); Medinol Ltd. v. Boston Sci. Corp., 346 F. Supp.2d 575, 599 (S.D.N.Y. 2004).

Accordingly, I recommend that plaintiff be granted summary judgment on its claim that defendants breached the NDA by retaining and using the ACE test results to validate Teytel's sequence, and that it be awarded nominal damages on this claim in the amount of $1.00.

a.   Injunctive Relief

Neither party has moved for summary judgment with respect to plaintiff's request for a permanent injunction preventing defendants from "disclosing or further using any confidential or proprietary information misappropriated from AAI by defendants" (Compl. ¶ 114). Accordingly, I do not address plaintiff's request for injunctive relief with respect to its claim that defendants breached the NDA by using the ACE test results to validate their own sequences.

C.   Defendants' Motion
for Summary Judgment

1.   Plaintiff's Claims for Breach of the
Duty of Good Faith and Fair Dealing,
Quantum Meruit, and Unjust Enrichment

a.   Good Faith and Fair Dealing

Plaintiff asserts a claim for breach of the duty of good faith and fair dealing alleging that defendants' fraudulently misrepresented several material facts in order to misap-

propriate ACE (Compl. ¶¶ 127-32). Specifically, plaintiff claims

that defendants misrepresented (1) their intention to license ACE

for seven figures per-year, (2) that plaintiff would receive

substantial licensing-fees from the Yield Book clients, (3) that

defendants would publicly disclose that they had integrated ACE

into the Yield Book and publicly endorse ACE, and (4) that

defendants would not misappropriate ACE (Compl. ¶ 128).

Under New York law, a duty of good faith and fair

dealing is implied in every contract. See e.g. U.S. Fid. & Guar.

Co. v. Braspetro Oil Servs. Co., 369 F.3d 34, 64 (2d Cir. 2004);

Fasolino Foods Co., Inc. v. Banca Nazionale del Lavoro, 961 F.2d

1052, 1056 (2d Cir. 1992). "'The elements of a claim for breach

of the duty of good faith and fair dealing are practically

identical to the elements of a negligence claim': (1) defendant

must owe plaintiff a duty to act in good faith and conduct fair

dealing; (2) defendant must breach that duty; and (3) the breach

of duty must proximately cause plaintiff's damages." Washington

v. Kellwood Co., 05 Civ. 10034 (DAB), 2009 WL 855652 at *6

(S.D.N.Y. Mar. 24, 2009), quoting Boyd v. Univ. of Illinois, 96

Civ. 9327 (TPG), 2001 WL 246402 at *10 (S.D.N.Y. Mar. 13, 2001).

The duty comprises "any promises which a reasonable person in the

position of the promisee would be justified in understanding were

included [in the contract]." Dalton v. Educ. Testing Serv., 87

N.Y.2d 384, 389, 663 N.E.2d 289, 291, 639 N.Y.S.2d 977, 979

(1995) (internal quotation marks omitted).

Where the alleged breach is predicated on the same

conduct that constitutes a breach of the express terms of a

contract, a claim based on the implied covenant is duplicative of

a breach of contract claim and should be dismissed. Sauer v.

Xerox Corp., 95-CV-6485l (DGL), 2000 WL 518186 at *5-*6

(W.D.N.Y. Apr. 25, 2000); Cary Oil Co. v. MG Ref. & Mktg. Inc.,

99 Civ. 1725 (LAK), 2000 WL 334819 at *12 (S.D.N.Y. Mar. 30,

2000); Page Mill Asset Mgmt. v. Credit Suisse First Boston Corp.,

98 Civ. 6907 (MBM), 2000 WL 335557 at *8 (S.D.N.Y. Mar. 30,

2000); Thayer v. Dial Indus. Sales, Inc., 85 F. Supp.2d 263, 271

(S.D.N.Y. 2000); Crane Co. v. Coltec Indus. Inc., 98 Civ. 8838

(BSJ), 1999 WL 38251 at *10 n.13 (S.D.N.Y. Jan. 28, 1999). "This

is because, under New York law, a breach of the implied duty of

good faith is considered a breach of the underlying contract[]"

and, accordingly, the breach of good faith claim is sustainable

only if it is based on allegations different from those underly-

ing the accompanying breach of contract claim. Deutsche Bank

Secs., Inc. v. Rhodes, 578 F. Supp.2d 652, 664 (S.D.N.Y. 2008),

citing Harris v. Provident Life & Acc. Ins. Co., 310 F.3d 73, 80

(2d Cir. 2002). In this case, the conduct alleged to constitute

a breach of the implied covenant of good faith and fair dealing

is the same conduct that gives rise to plaintiff's breach of

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contract claim -- namely defendants' alleged misappropriation of ACE in violation of the NDA.

Plaintiff argues that its claim alleging a violation of the covenant of good faith and fair dealing is viable notwith-standing its contract claim because the NDA specifically provided that "no license . . . is granted by this Agreement" (NDA ¶ 9) and, therefore, the good faith and fair dealing claim is based on a different "subject matter" (Plaintiff's Corrected Memorandum of Law in Opposition to Defendants' Motion for Summary Judgment ("Plf. Opp."), dated April 24, 2008, at 39-40). Plaintiff also claims that it should be allowed to proceed with its good faith and fair dealing claim to "recover the licensing revenues that Defendants have wrongfully denied them and to be made whole for the damage" (Plf. Opp. at 39-40). Plaintiff's position, however, is contradicted by the fact that it claims the lost licensing revenues, which it would have received if the parties had agreed to the June 2, 1998 proposal, as damages under its contract claim (Mangum Report at 1, 9). The distinction that plaintiff draws is non-existent; both claims are based on the same factual allega-tions and seek the same measure of damages.

Plaintiff is, therefore, precluded from bringing its breach of good faith and fair dealing claim because it is dupli-cative of its contract claim and, accordingly, defendants' motion for summary judgment on this claim should be granted.

b.   Quantum Meruit and
Unjust Enrichment Claims

Plaintiff also asserts claims for quantum meruit and
unjust enrichment alleging that defendants "promised to pay a
fair value to license ACE upon the successful completion of the
testing" but, instead, used ACE for their own financial gain
without compensating plaintiff (Compl. ¶¶ 136-53).

Under New York law, quantum meruit and unjust enrich-
ment claims are analyzed together as a single quasi-contract
claim. Mid-Hudson Catskill Rural Migrant Ministry, Inc. v. Fine
Host Corp., 418 F.3d 168, 175 (2d Cir. 2005), citing Newman &
Schwartz v. Asplundh Tree Expert Co., Inc., 102 F.3d 660, 663 (2d
Cir. 1996) and Seiden Assocs., Inc. v. ANC Holdings, Inc., 768 F.
Supp. 89, 96 (S.D.N.Y. 1991). "In order to recover in quantum
meruit, New York law requires a claimant to establish (1) the
performance of services in good faith, (2) the acceptance of the
services by the person to whom they are rendered, (3) an expecta-
tion of compensation therefor, and (4) the reasonable value of
the services." Revson v. Cinque & Cinque, P.C., 221 F.3d 59, 69
(2d Cir. 2000), quoting Longo v. Shore & Reich, Ltd., 25 F.3d 94,
98 (2d Cir. 1994). "Under New York law, a plaintiff asserting a
claim of unjust enrichment must show that the defendant was
enriched at the plaintiff's expense and that equity and good
conscience require the plaintiff to recover the enrichment from

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the defendant." Giordano v. Thomson, 564 F.3d 163, 190 (2d Cir.

2009), quoting Golden Pac. Bancorp v. FDIC, 375 F.3d 196, 203 n.8

(2d Cir. 2004).

        As with claims for breach of the covenant of good

faith, "'[t]he existence of a valid and enforceable written

contract governing a particular subject matter ordinarily pre-

cludes recovery in quasi contract for events arising out of the

same subject matter.'" Valley Juice Ltd. v. Evian Waters of

France, Inc., 87 F.3d 604, 610 (2d Cir. 1996), quoting Clark-

Fitzpatrick, Inc. v. Long Island R.R. Co., 70 N.Y.2d 382, 388,

516 N.E.2d 190, 193, 521 N.Y.S.2d 653, 656 (1987); accord New

Windsor Volunteer Ambulance Corps, Inc. v. Meyers, 442 F.3d 101,

118 (2d Cir. 2006); Reilly v. Natwest Mkts. Group Inc., 181 F.3d

253, 262-63 (2d Cir. 1999); City of Yonkers v. Otis Elevator

Company, 844 F.2d 42, 48 (2d Cir. 1988); Goldman v. Metro. Life

Ins. Co., 5 N.Y.3d 561, 572, 807 N.Y.S.2d 583, 587, 841 N.E.2d

742, 746 (2005). In this case, plaintiff's unjust enrichment and

quantum meruit claims seek recovery for defendants' alleged use

of ACE in violation of the NDA. See Mid-Hudson Catskill Rural

Migrant Ministry, Inc. v. Fine Host Corp., supra, 418 F.3d at 175

("a plaintiff's entitlement to recover in quantum meruit outside

of a valid contract may depend on a showing that the 'additional

services' are 'so distinct from the [contractual] duties . . .

that it would be unreasonable for the [defendant] to assume that

they were rendered without expectation of further pay.'"),
quoting U.S. East Telecomms., Inc. v. U.S. West Commc'n Servs.,
Inc., 38 F.3d 1289, 1298 (2d Cir. 1994); contra E*Trade Fin.
Corp. v. Deutsche Bank AG, 420 F. Supp.2d 273, 291 (S.D.N.Y.
2006)(declining to dismiss plaintiff's unjust enrichment claim
because "[q]uasi-contract claims are permitted if they arise from
services not covered by a contract").

        Plaintiff's quasi-contract claim here is based on the
same conduct that gives rise to its breach-of-contract claim.
Thus, plaintiff's quasi-contract claims are precluded by the
existence of the NDA and, accordingly, defendants motion for
summary judgment with respect to these claims should be granted.
See generally AEB & Assocs. Design Group, Inc. v. Tonka Corp.,
supra, 853 F. Supp. at 731-33 (granting summary judgment on
plaintiff's unjust enrichment and implied contract claims due to
the existence of a confidentiality agreement governing the
subject matter of misappropriation); Detsis v. Victoria's Secret
Stores, Inc., 03 Civ. 5358 (GBD), 2006 WL 2819586 at *7 (S.D.N.Y.
Sept. 29, 2006).

        2. Misappropriation Claim

        Plaintiff also brings a claim for misappropriation of
its claimed trade secret, alleging that Teytel improperly used
ACE, in breach of the NDA, to develop his 100-path mixed-seed and

200-path mixed-seed sequences and that defendants commit addi-

tional acts of misappropriation every time they use or license

the use of their sequence. Defendants move for summary judgment

with regard to plaintiff's misappropriation claim on the grounds

that (1) this claim is barred by the applicable statute of

limitations (Def. Mem. at 26) and (2) discovery is complete and

there is no "competent evidence demonstrating that defendants

misappropriated and used in their Yield Book code any of the ACE"

sequences (Def. Mem. at 1).

a.   Statute of Limitations

In New York, trade secret misappropriation claims are

governed by a three-year limitations period. N.Y. C.P.L.R. §

214(4) (McKinney 2003); Gurvey v. Cowan, Liebowitz & Latman, PC.,

06 Civ. 1202 (BSJ), 2009 WL 1117278 at *2 (S.D.N.Y. Apr. 24,

2009); Jamison Bus. Sys., Inc. v. Unique Software Support Corp.,

CV 02-4887(ETB), 2005 WL 1262095 at *14 (E.D.N.Y. May 26, 2005).

As the Honorable Howard G. Munson, United States District Judge,

explained in Norbrook Labs. Ltd. v. G.C. Hanford Mfg. Co.

> Accrual of a claim for trade secret misappropriation
> occurs as follows: If a defendant misappropriates and
> discloses a trade secret, he becomes liable to plain-
> tiff upon disclosure. On the other hand, if the defen-
> dant [misappropriates and] keeps the secret confiden-
> tial yet makes use of it to his own commercial advan-
> tage, each successive use constitutes a new actionable
> tort for purposes of the Statute of Limitations.

297 F. Supp.2d 463, 488 n.20 (N.D.N.Y. 2003), quoting

Architectronics, Inc. v. Control Systems, Inc., 935 F. Supp. 425,

433 (S.D.N.Y. 1996) and citing Lemelson v. Carolina Enter., Inc.,

541 F. Supp. 645, 659 (S.D.N.Y. 1982); accord Synergetics USA.,

Inc. v. Alcon Labs, Inc., 08 Civ. 3669 (DLC), 2009 WL 2016872 at

*2 (S.D.N.Y. July 9, 2009); Gurvey v. Cowan, Liebowitz & Latman,

PC., supra, 2009 WL 1117278 at *2. The complaint in this case

was filed on May 7, 2004 and, accordingly, plaintiff may bring a

misappropriation claim only if defendants "used" plaintiff's

claimed trade secret after May 7, 2001.

        As discussed in Section II(D), Teytel completed his

development work on defendants' 100-path mixed-seed sequence in

late 1998 or early 1999; defendants incorporated the sequence

into the Yield Book sometime in late 1999 and continued to

license and use the sequence until approximately February 2001

(see Def. Ans. to Interrogatories at 5; Def. 56.1 Stat. ¶¶ 90-

91). Since defendants' last arguable use of the 100-path mixed-

seed sequence occurred more than three years prior to the com-

mencement of this action, any claim of misappropriation based on

that claimed use is time-barred.

        Commencing in either September 2000 or February 2001,

defendants began using a 200-path mixed-seed sequence, which had

been developed by Teytel and was believed to be more accurate

than the 100-path mixed-seed sequence (Def. Ans. to Interrogato-

ries at 5 (the 200-path mixed-seed sequence was first implemented
into the Yield Book in September 2000); Def. 56.1 Stat. ¶ 91
(Defendants began using the 200-path mixed-seed sequence in the
Yield Book in February 2001)). As of the date of this motion,
defendants continue to license and use this 200-path mixed-seed
sequence; defendants also continue to use their 1000-path se-
quence.[31] Thus, the only timely misappropriation claim plaintiff
may have is a claim based on defendants' licensing and use of the
200-path mixed-seed sequence and the 1000-path single seed
sequence.

        This case raises what appears to be an issue of first
impression in this Circuit -- whether defendants' licensing of a
product which allegedly is derived from plaintiff's trade secret
constitutes a "use" for purposes of the statute of limitations.
The Restatement (Third) of Unfair Competition § 40 cmt. c (1995)
defines "use" of a trade secret as follows:

> As a general matter, any exploitation of the trade
> secret that is likely to result in injury to the trade
> secret owner or enrichment to the defendant is a "use"
> under this Section. Thus, marketing goods that embody
> the trade secret, employing the trade secret in manu-
> facturing or production, relying on the trade secret to
> assist or accelerate research or development, or solic-
> iting customers through the use of information that is
> a trade secret (see § 42, Comment f) all constitute
> "use."

_____

[31]After this action was commenced, in April 2006, defendants
changed the seed used to generate the 1,000 path sequence
(Declaration of Dr. Lakhbir Hayre, dated February 29, 2008 at ¶
16).

I adopt the Restatement's definition of "use" and conclude that if plaintiff can prove Teytel used ACE to facilitate the development of his 200-path and 1000-path sequences, plaintiff's misappropriation claim is timely with respect to defendants' licensing and use of their 200-path mixed-seed sequence and 1000-path single-seed sequence after May 7, 2001. See Gen. Universal Sys., Inc. v. HAL, Inc., 500 F.3d 444, 451 (5th Cir. 2007)(defendant's continued marketing and sales of a product derived from plaintiffs trade secret constituted a "use" within the limitations period); see also Norbrook Labs. Ltd. v. G.C. Hanford Mfg. Co., supra, 297 F. Supp.2d at 488 n.20 (manufacturer's continued sale of penicillin generated by implementing plaintiff's trade secret -- the "in situ" method of manufacturing -- constituted a use within the limitations period); Andrew Greenberg, Inc. v. Svane, Inc., 36 A.D.3d 1094, 1098, 830 N.Y.S.2d 358, 362 (3rd Dep't 2007) (defendants' continuing use of plaintiff's trade secret -- computer software -- to develop new games established the existence of a continuing tort).

The defendants argue that plaintiff's misappropriation claim is time-barred because the claim is based upon the allegation that "defendants 'isolated a 100-path segment of the ACE sequence' and in September 1999, 'integrated [that] 100-path sequence into The Yield Book'" (Def. Mem. at 26 n.16, quoting Compl. ¶ 89). This argument takes an improperly narrow view of

the allegations in plaintiff's complaint; plaintiff alleges that
defendants used plaintiff's trade secret to derive their own
sequences and then used these derived sequences to "dominate the
MBS and ABS industry and to post substantial revenue in fixed
income derivative products over the last three years" (Compl. ¶¶
1, 90). Thus, because defendants' use of the 200-path mixed-seed
sequence and the 1000-path sequence has continued through the
date of the filing of this motion, if plaintiff can demonstrate
that these two sequences are derived from ACE, plaintiff's
misappropriation claim based on the 200-path mixed-seed sequence
and the 1000-path sequence is timely.

i.   Fraudulent Concealment

        Plaintiff claims that the limitations period should be
tolled due to defendants' fraudulent concealment of their misap-
propriation which prevented plaintiff from becoming aware of
defendants impermissible use of ACE until 2004 (Plf. Opp. at 30).

        "Under the doctrine of fraudulent concealment, the
statute of limitations will be tolled if the plaintiff pleads,
with particularity, the following three elements: (1) wrongful
concealment by the defendant, (2) which prevented the plaintiff's
discovery of the nature of the claim within the limitations
period, and (3) due diligence in pursuing discovery of the
claim." Butala v. Agashiwala, 916 F. Supp. 314, 319 (S.D.N.Y.

1996), citing Griffin v. McNiff, 744 F. Supp. 1237, 1256

(S.D.N.Y. 1990); State of New York v. Hendrickson Bros., Inc.,

840 F.2d 1065, 1083 (2d Cir. 1988); Yeadon v. New York City

Transit Auth., 719 F. Supp. 204, 209 (S.D.N.Y. Aug. 4, 1989); In

Re Sumitomo Copper Litigation, 120 F. Supp.2d 328, 346 (S.D.N.Y.

Oct. 30, 2000); see also Stone v. Williams, 970 F.2d 1043,

1048-49 (2nd Cir. 1992)("Fraudulent concealment does not lessen a

plaintiff's duty of diligence; it merely measures what a reason-

ably diligent plaintiff would or could have known regarding the

claim.").[32] "A plaintiff seeking to avoid the bar of limitations

has the burden of both pleading and ultimately proving fraudulent

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[32]Plaintiff states that "on principles of fraudulent
concealment, the statute did not begin to run until shortly
before the filing of the complaint in 2004" (Plf. Opp. at 30).
It is not entirely clear whether plaintiff is seeking equitable
estoppel or equitable tolling on the basis of defendants' alleged
fraudulent concealment but, in any event, the difference is
immaterial in this case because under either doctrine, plaintiff
must demonstrate "that his ignorance is not attributable to a
lack of diligence on his part." Netzer v. Continuity Graphic
Assocs., Inc., 963 F. Supp. 1308, 1316-17 (S.D.N.Y. 1997), citing
Levy v. Aaron Faber, Inc., 148 F.R.D. 114, 119 (S.D.N.Y. 1993);
Abbas v. Dixon, 480 F.3d 636, 642 (2d Cir. 2007)("Due diligence
on the part of the plaintiff in bringing an action is an
essential element of equitable relief to defeat a statute of
limitations defense pursuant to the doctrines of equitable
tolling or equitable estoppel under New York law."); Waldman v.
Escobar, 08 Civ. 6405 (FM), 2009 WL 861068 at *3 (S.D.N.Y. Mar.
27, 2009); see also Pearl v. City of Long Beach, 296 F.3d 76, 82
(2d Cir. 2002)("[o]ur Court has used equitable tolling to mean
fraudulent concealment of a cause of action that has in some
sense accrued earlier")(internal quotations omitted); see
generally Klehr v. A.O. Smith Corp., 521 U.S. 179, 194 (1997)(in
the civil RICO context a plaintiff who is not reasonably diligent
may not assert 'fraudulent concealment').

concealment." Kozonasky v. Sears Roebuck & Co., 81 Civ. 2164

(CSH), 1986 WL 12528 at *2 (S.D.N.Y. Oct. 27, 1986).

Here, even assuming that plaintiff has produced suffi-

cient evidence to create a genuine issue of fact as to the

existence of fraudulent concealment by the defendants,[33] no

reasonable jury could find that plaintiff exercised due diligence

in ascertaining the facts that underlie its claim, and, accord-

ingly, the statute of limitations is not be tolled by defendants'

alleged misrepresentation. The record in this case demonstrates

that Wang became suspicious that defendants were misappropriating

ACE in 1999 (Compl. ¶¶ 64-66) and tape-recorded several conversa-

tions with defendants' employees during 1998 and 1999 (Plf. 56.1

Resp. ¶¶ 97-98). As early as September 1, 1999, plaintiff's

counsel sent defendants a letter threatening a lawsuit and

stating that "our client's investigation revealed that ACE may

actually have been reverse engineered by certain employee(s) of

your firm who were involved in the testing" (Letter from

Constantine S. Potamianos, Esq. to Lakhbir Hayre, attached as Ex.

49 to the Moore Decl.). In response to this letter, on November

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[33]Plaintiff argues that (1) "defendant affirmatively
concealed their misappropriation of Plaintiff's trade secrets"
and (2) "because use of this particular misappropriated trade
secret is not readily observable outside of defendants' premises,
such wrong is, in fact, 'self-concealing'" (Plf. Opp. at 31 n.4).
Nevertheless, despite citing the aforementioned three elements of
the doctrine of fraudulent concealment, plaintiff does not
address the later two elements.

1, 1999 defendants' offered to allow plaintiff to inspect "inter-
nal confidential materials that should allay any concern of Dr.
Wang that SSB 'reverse-engineered' his ACE software" if plaintiff
was willing to exercise a second non-disclosure agreement with
respect to this "internal confidential material" (Letter from
James S. Goddard, Esq., Assistant General Counsel for Salomon to
Constantine S. Potamianos, Esq., attached as Ex. 51 to Moore
Decl. #1). It does not appear from the record that plaintiff
pursued this offer. Instead, plaintiff's counsel repeated the
threat of a lawsuit in a letter dated February 14, 2002 that
attached a draft complaint (Letter from John F. Cambria, Esq.,
dated February 14, 2002, attached as Ex. 54 to the Moore Decl.).
Nevertheless, plaintiff did not file suit for another two years.

          Defendants' denial of any wrong-doing alone does not
justify plaintiff's failure to pursue its claims diligently and,
accordingly, the statute of limitations should not be tolled in
this case. See e.g. Price v. Fox Entm't Group, Inc., 473 F.
Supp.2d 446, 455 (S.D.N.Y. 2007); Margo v. Weiss, 96 Civ. 3842
(MBM), 1998 WL 2558 at *6 (S.D.N.Y. Jan.5, 1998) ("due diligence
is not satisfied by passive reliance upon an allegedly deceptive
statement"); Netzer v. Continuity Graphic Assocs., Inc., supra,
963 F. Supp. at 1316-17, citing Singletary v. Cont'l Illinois
Nat'l Bank & Trust Co., 9 F.3d 1236, 1241 (7th Cir. 1993) ("mere
denial of liability . . . cannot be a foundation of an equitable

estoppel"); Zola v. Gordon, 685 F. Supp. 354, 366 (S.D.N.Y. 1988)
("as a matter of law plaintiffs would not be entitled to rely on
'reassuring comments' given them after they received constructive
knowledge of the fraud"); accord Med. Educ. Dev. Servs., Inc. v.
Reed Elsevier Group, PLC, 05 Civ. 8665 (GEL), 2008 WL 4449412 at
*11 (S.D.N.Y. Sept. 30, 2008); Banushi v. City of New York,
CV-05-1805 (CPS), 2006 WL 2811898 at *4 n.6 (E.D.N.Y. Sept. 28,
2006); Weber v. Geffen Records, Inc., 63 F. Supp.2d 458, 467
(S.D.N.Y. 1999); Dewan v. Blue Man Group Ltd. P'ship, 73 F.
Supp.2d 382, 387 (S.D.N.Y. 1999).

b.   Absence of Proof of Misappropriation

"To succeed on a claim for misappropriation of trade
secrets under New York law, a party must demonstrate: (1) that it
possessed a trade secret, and (2) that the defendants used that
trade secret in breach of an agreement, confidential relationship
or duty, or as a result of discovery by improper means." N. Atl.
Instruments, Inc. v. Haber, 188 F.3d 38, 43-44 (2d Cir. 1999),
citing Hudson Hotels Corp. v. Choice Hotels Int'l, 995 F.2d 1173,
1176 (2d Cir. 1993); accord Faiveley Transp. Malmo AB v. Wabtec
Corp., 559 F.3d 110, 117 (2d Cir. 2009); R.F.M.A.S., Inc. v. Mimi
So, supra, 619 F. Supp.2d at 86. "[A] trade secret is defined as
'any formula, pattern, device or compilation of information which
is used in one's business, and which gives [the owner] an oppor-

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tunity to obtain an advantage over competitors who do not know or use it." N. Atl. Instruments, Inc. v. Haber, supra, 188 F.3d at 44, quoting Restatement of Torts § 757 cmt. b (1939); Softel, Inc. v. Dragon Med. & Scientific Commc'n, Inc., 118 F.3d 955, 968 (2d Cir. 1997); Pella Windows & Doors v. Buscarnera, 07 CV 82 (SLT)(JMA), 2007 WL 2089298 at *10 (E.D.N.Y. July 18, 2007).

　　　　Misappropriation cases, like this one, in which a plaintiff alleges that defendants' product is derived from plaintiff's trade secret require courts to distinguish between copying and independent development. In order to prove misappropriation, proof of "slavish copying" is not necessary and an actor is liable "for using the trade secret with independently created improvements or modifications if the result is substantially derived from the trade secret." Restatement (Third) of Unfair Competition § 40 cmt. c (1995); Restatement (First) of Torts § 757 cmt. c (1939); accord Computer Assoc. Int'l v. Bryan, 784 F. Supp. 982, 1008-10 (E.D.N.Y. 1992); Dresser-Rand Co. v. Virtual Auto. Inc., 361 F.3d 831, 840 (5th Cir. 2004)(superficial differences are insufficient to shield the defendant from liability); Am. Can Co. v. Mansukhani, 742 F.2d 314, 329-30 (7th Cir. 1984)("If the law were not flexible enough to reach such modifications, trade secret protection would be quite hollow."). As a result, a claim for misappropriation based on copying can be established "by showing access and substantial similarity."

Julie Research Labs, Inc. v. Select Photographic Eng'g, Inc., 810 F. Supp. 513, 518 (S.D.N.Y. 1992) aff'd in part, vacated in part on other grounds by, 998 F.2d 65 (2nd Cir. 1993). Similarly, "a trade secret is 'used' and liability is imposed if a defendant relied on the trade secret to hasten its own development efforts." Eco-Separator Co., Inc. v. Shell Canada Ltd., 12 U.S.P.Q.2d 1635, 1638 (9th Cir. 1989); Sokol Crystal Prods., Inc. v. DSC Commc'n Corp., 15 F.3d 1427, 1431 (7th Cir. 1994)(imposing liability if a product or process is "substantially derived" from a trade secret); Norbrook Labs. Ltd. v. G.C. Hanford Mfg. Co., supra, 297 F. Supp.2d at 489-90; On-Line Tech., Inc. v. Perkin-Elmer Corp., 253 F. Supp.2d 313, 332-33 (D. Conn. 2003)(under Connecticut law "[m]isappropriation can be proved by evidence of an advantage gained by building upon another's successful secrets"); Restatement (Third) of Unfair Competition § 40 cmt. c (1995). Therefore, a plaintiff can establish misappropriation by demonstrating either a substantial similarity between the two products or that defendant's technology is substantially derived from plaintiff's trade secret.

          At the same time, however, courts have been careful to avoid extending this principle to the point where it discourages innovation and suppresses legitimate competition. See Kewanee Oil Co. v. Bicron Corp., 416 U.S. 470, 481-82 (1974); Am. Can Co. v. Mansukhani, supra, 742 F.2d at 329-30. Accordingly, competi-

tors are free to use public information to "reverse-engineer" a

product, and a trade secret owner cannot prevent others from

making similar products that are not derived from the trade

secret. Kewanee Oil Co. v. Bicron Corp., supra, 416 U.S. at 476;

Faiveley Transp. Malmo AB v. Wabtec Corp., supra, 559 F.3d at

117. Reverse-engineering is only permissible, however, so long

as "the information necessary to reverse engineer is in the

public domain, and not [obtained] through the confidential

relationship established with the maker or owner of the product."

Kadant, Inc. v. Seeley Mach., Inc., 244 F. Supp.2d 19, 38

(N.D.N.Y. 2003); Telerate Sys, Inc. v. Caro, 689 F. Supp. 221,

233 (S.D.N.Y. 1988). Once a plaintiff has established an infer-

ence of misappropriation by demonstrating access to non-public

information and substantial similarity, the burden falls on

defendant to demonstrate independent development. AEB & Assocs.

Design Group, Inc. v. Tonka Corp., supra, 853 F. Supp. at 735;

Integrated Cash Mgmt. Servs., Inc. v. Digital Transactions, Inc.,

732 F. Supp. 370, 377-78 (S.D.N.Y. 1989); Rapco Foam, Inc. v.

Scientific Applications, 479 F. Supp. 1027, 1030-31 (S.D.N.Y.

1979).

       For purposes of the present motion, defendants do not

challenge plaintiff's claim that ACE constitutes a trade secret[34]

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      [34]Defendants do challenge any attempt by plaintiff to claim
the "distribution characteristics" of ACE as a trade secret (Def.
(continued...)

(see Def. Mem. at 15 n.5), nor do they contest the validity and
enforceability of the NDA. Defendants only seek summary judgment
regarding plaintiff's failure to present sufficient evidence of
defendants' improper use of ACE in violation of the NDA.

The core of plaintiff's claim is that defendants'
improperly used ACE to develop their own sequences, in violation
of the NDA. In support of this claim, plaintiff relies entirely
on the following conclusions reached by Fan in his expert report:
(1) the first eight time steps of a sequence generated from a
seed contained in Teytel's notebook -- Seed 13812 -- "bore an
unusually close similarity[35] from a statistical standpoint to
the first 8 time steps of an ACE sequence"; (2) Teytel's 100 and
200-path mixed-seed sequences properly utilized two independent
numbers at each time step -- a Two Factor Model -- unlike defen-

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[34](...continued)
Mem. at 15-17). As discussed at page 7 n.10, supra, the repeated
statements of plaintiff's attorneys precludes any attempt to
claim as trade secrets the seeds associated with ACE, the
distribution characteristics of ACE, or the interest rate paths
generated by ACE. In any event, plaintiff has failed to meet its
burden of defining the distribution characteristics of ACE, the
seeds used to produce ACE or the interest rate paths generated by
ACE with sufficient particularity to sustain a trade secret
misappropriation claim based on these elements. See e.g. Julie
Research Labs, Inc. v. Select Photographic Eng'g, Inc., supra,
810 F. Supp. at 519, citing Xerox Corp. v. Int'l Bus. Mach.
Corp., 64 F.R.D. 367, 371-72 (S.D.N.Y. 1974); Cargill, Inc. v.
Sears Petroleum & Transp. Corp., 388 F. Supp.2d 37, 65 (N.D.N.Y.
2005).

[35]Fan opines that the chance that such a close match would
result by chance is only 0.05% (2nd Fan Decl. ¶ 79).

dants prior 200-path single-seed production sequence in which the

defendants "utilized the same number or the same number with a

different sign (plus or minus) at each time step"; (3) the method

defendants claim to have used to develop their 1000-path sequence

does not make sense to Fan; (4) Teytel's notes regarding the

development of his sequences contain references to "ACE 64

comparison to LDS 100,"[36] "cmoopt.ace,"[37] and "gauss_random with

fixed long seeding"[38]; (5) Fan believes that Teytel was unquali-

fied for the difficult mathematical problem of developing a new

sequence; and (6) Teytel's mixed-seed algorithm does not make

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[36]Teytel used the abbreviation "LDS 100" to refer to his 100-path mixed-seed sequence.

[37]According to Fan's expert report, when Teytel tested his mixed-seed sequences he referred to the executable program being used to price the test portfolio of securities as "cmoopt" (2nd Fan Decl. ¶ 42; Teytel's notes at Bates No. CGM 00238, CGM 00238 - CGM 00240, attached as Ex. P to the 2nd Munves Decl.). Fan concludes that this reference to "cmoopt.ace" indicates that Fan was using ACE to price various securities (2nd Fan Decl. ¶ 42).

[38]The parties offer different interpretations of the handwritten notation on line 10 of the page stamped with Bates No. CGM 00238, the page that allegedly contains this phrase. Fan believes that Teytel wrote "gauss_random with fixed long seeding" whereas Teytel claims that he wrote "gauss_random with fixed bug seeding." According to Fan's expert report, this notation cannot be a reference to the gauss_random.c program defendants used to generate their original 200-path single seed production sequence because that sequence was not being tested here (2nd Fan Decl. ¶ 43; see also Russel Dep. at 479-480(discussing use of the gauss_random.c program)). Fan also believes that it cannot refer to a program used to generate Teytel's 100-path mixed-seed sequence because that sequence utilized "short seeds" not "long seeds" (2nd Fan Decl. ¶ 44). Fan proceeds to speculate that this notation refers to a program used to read in the ACE sequences during testing (2nd Fan Decl. ¶ 44).

sense and would have taken years to complete[39] (Plf. Opp. at 13-16; 2nd Fan Decl. ¶¶ 37, 41-45, 46-58, 61-68, 77, 83; see also Teytel's notes at Bates No. CGM 00238 - CGM 00240, attached as Ex. P to the 2nd Munves Decl.).

i.   No Demonstrated Similarity

While defendants dispute the validity of Fan's find-ings,[40] I conclude that even if a reasonable jury accepted these findings it could not render a verdict in plaintiff's favor based on the evidence in the record. Critically, the undisputed evidence in the record indicates no statistical correlation or similarity between any of the sequences used by defendants and ACE 64. Plaintiff's expert, Fan, did not attempt to compare defendants' sequences or the code used in the Yield Book to ACE (Def. 56.1 Stat ¶ 111; Plf. 56.1 Reply ¶ 111; 2nd Fan Decl. ¶ 87, 90 ("the production code is irrelevant to my proof"); Deposition of Dr. Jianqing Fan, dated December 11, 2007, at 107, attached as Ex. 47 to the Moore Decl.). Fan justified his decision not to

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[39]Fan's estimate of the time it would take to complete Teytel's development process assumes that it took two hours to test each of the seeds while Teytel testified that it would take "two hours or less" to test each seed.

[40]For example, defendants contend that the references to ACE contained in Teytel's notebook are references to the vanity comparison that he performed between the two sequences. This constitutes a disputed issue of fact but, as discussed in the text, it is alone insufficient to preclude summary judgment.

conduct such a comparison on the grounds that (1) he didn't have

sufficient time and (2) because "the production code . . . could

be easily fabricated . . . with the real sequences Defendants'

used being read in with the 'atoi() function'" (2nd Fan Decl. at

¶¶ 74, 87). Plaintiff does not, however, explain what the

"atoi() function" is, how it works or how it could be used to

fabricate the sequences used in the Yield Book.[41] Nor does Fan

present any evidence that the "atoi() function" was used by the

defendants in their Yield Book. Absent any evidence indicating

that the "atoi() function" can be used in the manner alleged or

that defendants used the "atoi() function" to cover-up their use

of ACE in the Yield Book production code, plaintiff's unsupported

speculation is insufficient to defeat a motion for summary

judgment. See Matsushita Elec. Indus. Co. v. Zenith Radio Corp.,

475 U.S. 574, 586 (1986) (the non-movant cannot avoid summary

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[41]Defendants' expert, Polish, claims that the

> atoi() function is a standard built in function that is
> used to convert from "alphanumeric" or "a" to integer
> "i" numbers. Hence "a to i." . . . . atoi() is used to
> read in a file of seeds. Thus, the ACE sequences
> themselves, which are not seeds, could never have been
> read directly using the [atoi() function]. Further,
> even if this functionality had been used to read in
> other seeds (not sequences), there would need to be a
> least one or two other files associated with this
> process. Dr. Fan has presented no evidence suggesting
> that any such files ever existed . . . .

(Fifth Declaration of Dr. Nathaniel Polish ("5th Polish Decl."),
dated May 15, 2008, at ¶ 24).

judgment simply by asserting a "metaphysical doubt as to the material facts" and must set forth specific facts showing that there is a genuine issue for trial); Major League Baseball Props., Inc. v. Salvino, Inc., supra, 542 F.3d at 310 ("A party opposing summary judgment does not show the existence of a genuine issue of fact to be tried merely by making assertions that are conclusory, or based on speculation." (internal citations omitted)); McPherson v. New York City Dep't of Educ., 457 F.3d 211, 215 n.4 (2d Cir. 2006); Woodman v. WWOR-TV, Inc., 411 F.3d 69, 75 (2d Cir. 2005); Golden Pac. Bancorp v. FDIC, supra, 375 F.3d at 200; D'Amico v. City of New York, 132 F.3d 145, 149 (2d Cir. 1998) ("[T]he non-moving party may not rely on mere conclusory allegations nor speculation, but instead must offer some hard evidence showing that its version of the events is not wholly fanciful.").

        Defendants' expert, Dr. Nathaniel Polish did, however, conduct a statistical analysis which demonstrated that "the Yield Book sequences do not correlate to ACE to any greater extent than randomly generated sequences" (Fourth Declaration of Dr. Nathaniel Polish ("4th Polish Decl."), dated February 15, 2008, at ¶¶ 43-47; 5th Polish Decl. at ¶ 9). Plaintiff does not dispute Polish's statistical analysis other than to state that Polish's test "to detect the targeting of ACE, was too rudimentary and not powerful enough to detect the many ways that defendants could

have disguised their targeting of ACE" (Plf. Opp. at 5). In-

stead, plaintiff questions whether the sequences produced by

defendants were the sequences actually used in the Yield Book

(Plf. Opp. at 5).[42] Again, plaintiff fails to support either of

these conjectures with any evidence. In substance, plaintiff

speculates that there are possible defects in Dr. Polish's

analysis but offers no evidence whatsoever that such defects

actually exist.

Accordingly, the evidence in the record indicates that

there are no measurable similarities between plaintiffs trade

secret -- ACE -- and defendants' sequences and, therefore, no

basis for a claim of direct misappropriation.

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[42]Plaintiff initially argued that Polish's analysis compared
ACE to a sequence, Bates No. CGM 07073 ("original sequence"),
which was not produced to plaintiff (Plf. Opp. at 5 n.2). It is
clear, however, from the evidence that this original sequence was
produced to plaintiffs (see Reply Declaration of Christopher P.
Moore in Support of Defendants' Motion for Summary Judgment,
dated May 15, 2008, and attached exhibits; see also Radak Decl.).
But, the original sequence initially contained a programming
"bug," and, accordingly, defendants subsequently produced a
debugged sequence at Bates No. 04945 ("debugged sequence"). In
any event, this concern was subsequently mooted by the fact that
Polish conducted the same statistical analysis with regard to the
debugged sequence and determined that the debugged sequence
"correlated even more like random sequences than" the original
sequence (Fifth Polish Decl. ¶ 15).

ii. Insufficient Evidence
that Defendants Sequences
<u>Were Derived from ACE</u>

Plaintiff argues that, even absent a showing of any
similarity, Dr. Fan's aforementioned findings are sufficient for
a reasonable jury to find that defendants misappropriated plain-
tiffs' sequence in order to aid in the development of their own
sequence.

As an initial matter, plaintiff has presented no
evidence indicating that Teytel had access to plaintiff's trade
secret -- ACE -- during the development of his sequences nor has
plaintiff offered a viable explanation for how defendants managed
to "capture" ACE during the testing process.[43] Accordingly,
plaintiff's only proof consists of circumstantial evidence --
namely, Teytel's testing of a seed that can generate a sequence
highly correlated with the first eight time-steps of ACE, Tey-
tel's use of a Two-Factor Model, references to ACE in Teytel's

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[43]Plaintiff's initially alleged that defendants programmed
the Test Computer to capture and save the various interest rate
scenarios generated by ACE (Compl. ¶¶ 65-67). As indicated at
page 7 n.10, <u>supra</u>, plaintiff has repeatedly indicated that it is
the ACE sequence itself that constitutes a trade secret and not
the interest rate paths generated by the ACE sequence.
Accordingly, plaintiff must present evidence of defendants'
misappropriation of ACE; evidence that Teytel had access to the
test results, in violation of the NDA, alone will not sustain a
misappropriation claim because the test results are not the
claimed trade secret. As discussed above, plaintiff has
presented insufficient evidence indicating that defendants'
reverse-engineered ACE by targeting these improperly retained
test-results.

notebook and several putative fallacies in Teytel's mixed-seed

algorithm -- from which plaintiff claims a jury could infer that

defendants utilized ACE in developing its own sequences.

          Even this circumstantial evidence, however, suffers

from a fatal defect. All of this evidence focuses on the process

by which defendants developed their 100-path mixed-seed sequence

whereas, as discussed in Section III(C)(2)(a) supra, this aspect

of plaintiff's misappropriation claim is time barred and plain-

tiff's misappropriation claim is timely only with respect to

defendants' ongoing use of their 200-path mixed-seed sequence and

1000-path mixed-seed sequence. Plaintiff claims that defendants'

200-path mixed-seed sequence cannot be "divorced from . . .

defendants' earlier misappropriation with respect to their 64

path and 100 path mixed seed sequences [because] Defendants

admitted that all three sequences involved the same researcher --

Teytel, the same algorithm, the same development process, the

same development notebook, and the same use of mixed seeds" (Plf.

Opp. at 29-30).[44] The excerpts of Russell's deposition to which

plaintiff cites, however, do not support this statement in part

because Russell does not identify which of Teytel's four se-

quences he is discussing:

> Q: Is this the procedure [referring to Teytel's
>   Mixed-Seed Algorithm] that you and [Teytel]

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[44]Plaintiff does offer any evidence suggesting that the
1000-path sequence was also developed using the same methodology.

> discussed and worked out for developing the
> mixed-seed sequences that he subsequently
> found?

A: It appears to be that procedure, yes.

(Russell Dep. at 451). Even if I accept that Teytel utilized the

same mixed-seed algorithm to develop all of his sequences,

plaintiff still has not met its burden of connecting the evidence

in support of its claim of misappropriation -- namely, the

ambiguous references to ACE in Teytel's notebook and the testing

of seed 13812 -- with the development of its 200-path or 1000-

path sequences.

Nevertheless, I address plaintiff's evidence of

misappropriation below.

iii. Plaintiff's Evidence

Plaintiff places substantial emphasis on the correla-

tion analysis conducted by Fan indicating that the first eight

time steps of a sequence generated from a seed -- Seed 13812 --

discovered in Teytel's notebook bears a statistically unusual

similarity to the first eight time steps of ACE (2nd Fan Decl. ¶

77). First, there is no evidence that Seed 13812 was utilized in

the development of either Teytel's 100-path mixed-seed sequence

or his 200-path mixed-seed sequence; this seed was only used to

generate Teytel's 64-path sequence, which was discarded and never

used in the Yield Book (Def. 56.1 Stat. ¶ 116; 2nd Fan Decl. ¶

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39). Second, as discussed at page 7 n.10, supra, plaintiff's

counsel has repeatedly and unequivocally identified plaintiff's

trade secret as the ACE sequence itself and not the seeds or

method used to derive ACE.[45] Accordingly, even if a jury were to

accept the validity of Fan's analysis, it does not indicate that

Teytel improperly used the ACE sequence in the development of his

sequences. At best, Fan's correlation analysis indicates that

one of the hundreds of thousands of seeds tested by Teytel during

his development process can be used to generate a sequence with

an unusual similarity to ACE across the first eight time-steps.[46]

       None of the remaining pieces of evidence offered by

plaintiff are sufficient to raise a genuine issue of material

fact precluding summary judgment. First, the fact that Teytel

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[45]Moreover, to the extent that plaintiff intends to use this
unusual correlation to sustain a claim that Teytel
misappropriated the seeds which form the building blocks of the
ACE sequence, this claim appears untenable because the methods
used to develop ACE and the defendants' sequences appear to make
different use of the seeds (Def. 56.1 Stat ¶¶ 144-45; Plf. 56.1
Reply ¶¶ 144-45).

[46]Defendants also object to that admissibility of Fan's
analysis with regard to Seed 13812 because he delegated the task
of generating a sequence from this seed to an assistant, Dr. Sen
Hu, who was unavailable to testify. Defendants also believe that
Hu modified the sequence generated from Seed 13812 by applying a
"variance reduction technique" such as "antithetic sampling" or
an "orthogonalization function" (Fifth Polish Decl. ¶ 21; Fan
Dep. at 120; 4th Declaration of Sen Hu, attached as Ex. 66 to the
Moore Decl.). A variance reduction technique is designed to make
efficient use of the pseudo-random numbers to reduce the variance
of the simulation estimates. See Reuven Y. Rubinstein & Dirk P.
Kroese, Simulation and the Monte Carlo Method at 125-129 (2nd ed.
2007).

switched to a "proper" Two Factor Model -- using two independent numbers at each time step -- is not evidence of misappropriation because the Two Factor Model is publicly available information and does not constitute a protected component of plaintiff's trade secret (see Salomon Brothers, A Term Structure Model and the Pricing of Fixed-Income Securities, (June 1997) at Bates No. AAI 0691-0693, attached as Ex. C to Munves Decl. #2 (discussing the one and two-factor models)).

Second, plaintiff claims, without supporting evidence, that defendants implemented a 1000-path sequence without testing it and added 800 random paths generated from the seed used to produce their original 200-path single-seed production sequence (2nd Fan Decl. ¶¶ 61-64). Fan argues that it makes no sense to use 800 random paths generated from this seed instead of using other seeds, which had been extensively tested, to generate the other 800 paths. Fan proceeds to hypothesize that "[i]f defen-dants did not properly test their 1000-path sequences, it strong-ly suggests that they were being used to cover up the use of" a super ACE 896-path sequence produced by combining the 32-path, 64-path, and 128-path sequences (2nd Fan Decl. ¶¶ 67-70). This entire theory is, however, based on conjecture and speculation and, absent any supporting facts, is not a basis for denying summary judgment. See Major League Baseball Props., Inc. v. Salvino, Inc., supra, 542 F.3d at 310.

Third, the three ambiguous references to ACE in Tey-
tel's notebook provide, at most, only weak circumstantial evi-
dence that Teytel used ACE or some component or derivative of ACE
to develop his sequences; Fan's testimony consisted almost
entirely of speculation as to what these notes could indicate.
Moreover, as indicated above, this evidence provides no indica-
tion that ACE was used in the development of Teytel's 200-path
mixed-seed sequence or 1000-path single-seed sequence, the only
sequences used by defendants within the limitations period.[47]
Finally, the remaining evidence presented by plaintiff -- namely
(1) Teytel's lack of experience and (2) the putative fallacies in
Teytel's mixed-seed algorithm method -- are primarily relevant as
a means of rebutting defendants' showing of independent develop-
ment. But, absent some showing of derivation or substantial
similarity between the sequences, the burden does not shift to
defendants to prove independent development. Ultimately, given
the absence of any demonstrated similarity between defendants'

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[47]Fan's expert report considers the ambiguous references to
ACE in Teytel's notebook as evidence that Teytel had access to
ACE while developing his 64-path and 100-path mixed seed
sequences. His argument regarding these ambiguous references to
ACE does not, however, mention the development of Teytel's 200-
path mixed-seed sequence (see 2nd Fan Decl. ¶¶ 41-45). Thereby
leaving unanswered the question of whether similar references to
ACE exist in the section of the notebook memorializing the
development of Teytel's 200-path mixed seed sequence or whether I
am meant to assume that the section of the notebook referencing
ACE was used in the development of both sequences, even though
they were developed more than a year apart.

sequences and ACE, the ambiguous references to ACE in Teytel's notebook, Teytel's inexperience, the inherent problems identified with Teytel's method and the presence of Seed 13812 are insufficient to demonstrate that ACE was improperly used in the development of defendants' sequences.

Thus, I conclude that no reasonable jury could find defendants liable for misappropriating ACE based on this "web of [] ambiguous circumstantial evidence," see Monovis, Inc. v. Aquino, 905 F. Supp. 1205, 1231-33 (W.D.N.Y. 1994) and, accordingly, I recommend that defendants' motion for summary judgment, with regard to plaintiff's misappropriation claim, be granted .

3.   Breach of Contract

Defendants also move for summary judgment on plaintiff's second breach of contract claim which alleges that defendants breached the NDA by "decompiling, disassembling, and/or reverse engineering AAI's Confidential Software Information (in particular ACE)" (Compl. ¶ 103). For the aforementioned reasons, I conclude that no reasonable jury could find the evidence in the record sufficient to conclude that defendants improperly used plaintiff's trade secret -- ACE -- in developing any of their sequences. Accordingly, defendants motion for summary judgment should also be granted with respect to plaintiff's second breach of contract claim.

D.   Attorneys' Fees and Costs

The NDA provides that "[i]f any legal action arises relating to this Agreement, the prevailing party shall be enti- tled to recover all court costs, expenses and reasonable attor- ney's fees, in addition to any other relief to which it might be entitled" (NDA ¶ 21). Both parties move for attorneys' fees and costs.

"In New York, the prevailing party is the party that 'prevailed with respect to the central relief sought.'" Arbor- dale Hedge Invs., Inc. v. Clinton Group. Inc., 99 Civ. 4452 (MBM), 1999 WL 1000939 at *2 (S.D.N.Y. Nov. 4, 1999), citing Nestor v. McDowell, 81 N.Y.2d 410, 415-16, 615 N.E.2d 991, 994, 599 N.Y.S.2d 507, 510 (1993); accord Mancheski v. GGCP, Inc., 41 A.D.3d 790, 791, 839 N.Y.S.2d 192, 193 (2nd Dep't 2007); Fatsis v. 360 Clinton Ave. Tenants Corp., 272 A.D.2d 571, 571, 709 N.Y.S.2d 421, 422 (2nd Dep't 2000); 25 E. 83 Corp. v. 83rd St. Assoc., 213 A.D.2d 269, 269, 624 N.Y.S.2d 125, 125 (1st Dep't 1995); cf. TIG Ins. Co. v. Newmont Min. Corp., 226 F. App'x 49, 51 (2d Cir. 2007)(district court did not abuse its discretion by declining to award attorneys' fees; plaintiff succeeded on one of its claims, winning a judgment which was not de minimis, but did not prevail on its "most substantial claim"). In this case, as in Arbordale, the NDA refers to the "prevailing party" without

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explanation or definition and, therefore, "New York law as to the

meaning of prevailing party is clearly applicable" Arbordale

Hedge Invs., Inc. v. Clinton Group. Inc., supra, 1999 WL 1000939

at *2, quoting Halligan v. Piper Jaffray, Inc., 148 F .3d 197,

202 (2d Cir. 1998). Here, defendants have prevailed on their

motion for summary judgment and I have recommend the dismissal of

plaintiff's misappropriation, second breach of contract claim,

breach of the duty of good faith, quantum meruit, and unjust

enrichment claims. Although plaintiff has prevailed on its first

breach of contract claim alleging the improper use of the ACE

test results to validate Teytel's sequence, that claim is a

relatively insignificant part of the case and has yielded a right

to recover only nominal damages. Accordingly, defendants have

prevailed with regard to the central relief sought and, there-

fore, under the NDA, are entitled to recoup reasonable attorneys'

fees and costs.

IV.   Conclusion

        Accordingly, for all the foregoing reasons, I respect-

fully recommend that plaintiff's motion for partial summary

judgment be granted as to defendants liability for breach of the

NDA by utilizing the ACE test results to validate Teytel's

sequence and that plaintiff be awarded nominal damages of $1.00

on this claim; to the extent plaintiff seeks injunctive relief on

this claim, further proceedings are necessary to determine its
right to such relief.

I further recommend that defendants' motion for summary
judgment be granted, dismissing plaintiff's claims for breach of
the covenant of good faith and fair dealing, quantum meruit,
unjust enrichment, misappropriation and the remainder of plain-
tiff's breach of contract claim. Defendants' motion for costs
and attorneys' fees should also be granted.

V. Objections

Pursuant to 28 U.S.C. § 636(b)(1)(C) and Rule 72(b) of
the Federal Rules of Civil Procedure, the parties shall have ten
(10) days from the date of this Report and Recommendation to file
written objections. See also Fed.R.Civ.P. 6(a) and 6(e). Such
objections (and responses thereto) shall be filed with the Clerk
of the Court, with courtesy copies delivered to the chambers of
the Honorable Laura T. Swain, United States District Judge, 500
Pearl Street, Room 755, New York, New York 10007, and to the
chambers of the undersigned, 500 Pearl Street, Room 750, New
York, New York 10007. Any requests for an extension of time for
filing objections must be directed to Judge Swain. FAILURE TO
OBJECT WITHIN TEN (10) DAYS **WILL** RESULT IN A WAIVER OF OBJECTIONS
AND WILL PRECLUDE APPELLATE REVIEW. Thomas v. Arn, 474 U.S. 140,
155 (1985); IUE AFL-CIO Pension Fund v. Herrmann, 9 F.3d 1049,

1054 (2d Cir. 1993); <u>Frank v. Johnson</u>, 968 F.2d 298, 300 (2d Cir.

1992); <u>Wesolek v. Canadair Ltd.</u>, 838 F.2d 55, 57-59 (2d Cir.

1988); <u>McCarthy v. Manson</u>, 714 F.2d 234, 237-38 (2d Cir. 1983).

Dated: New York, New York
         August 5, 2009

                                  Respectfully submitted,

                                  HENRY PITMAN
                                  United States Magistrate Judge

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